Twin Oaks Fuel, Convenience Store, and Car Wash Project

Initial Study – Mitigated Negative Declaration (ND21-003)

prepared by

City of San Marcos
Planning Division
1 Civic Center Drive
San Marcos, California 92069
Contact: Art Pinon, Senior Planner

prepared with the assistance of

Rincon Consultants, Inc.
2215 Faraday Avenue, Suite A
Carlsbad, California 92008

July 2021

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
rinconconsultants.com

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Initial Study-Mitigated Negative Declaration

1. Project Title

Twin Oaks Fuel, Convenience Store, and Car Wash Project

2. Lead Agency Name and Address

City of San Marcos
1 Civic Center Drive
San Marcos, California 92069

3. Contact Person and Phone Number

Art Pinon, Senior Planner
(760) 744-1050, ext. 3234

4. Project Location

The project site lies in the City of San Marcos in northern San Diego County, and Figure 1 identifies the regional location. Located at the southeast corner of Twin Oaks Valley Road and Borden Road, the 2.5-acre project site (Assessor's Parcel Number 220-050-09-00) lies approximately 0.9-mile north of State Route 78. Figure 2 specifies the project location.

5. Project Sponsor's Name and Address

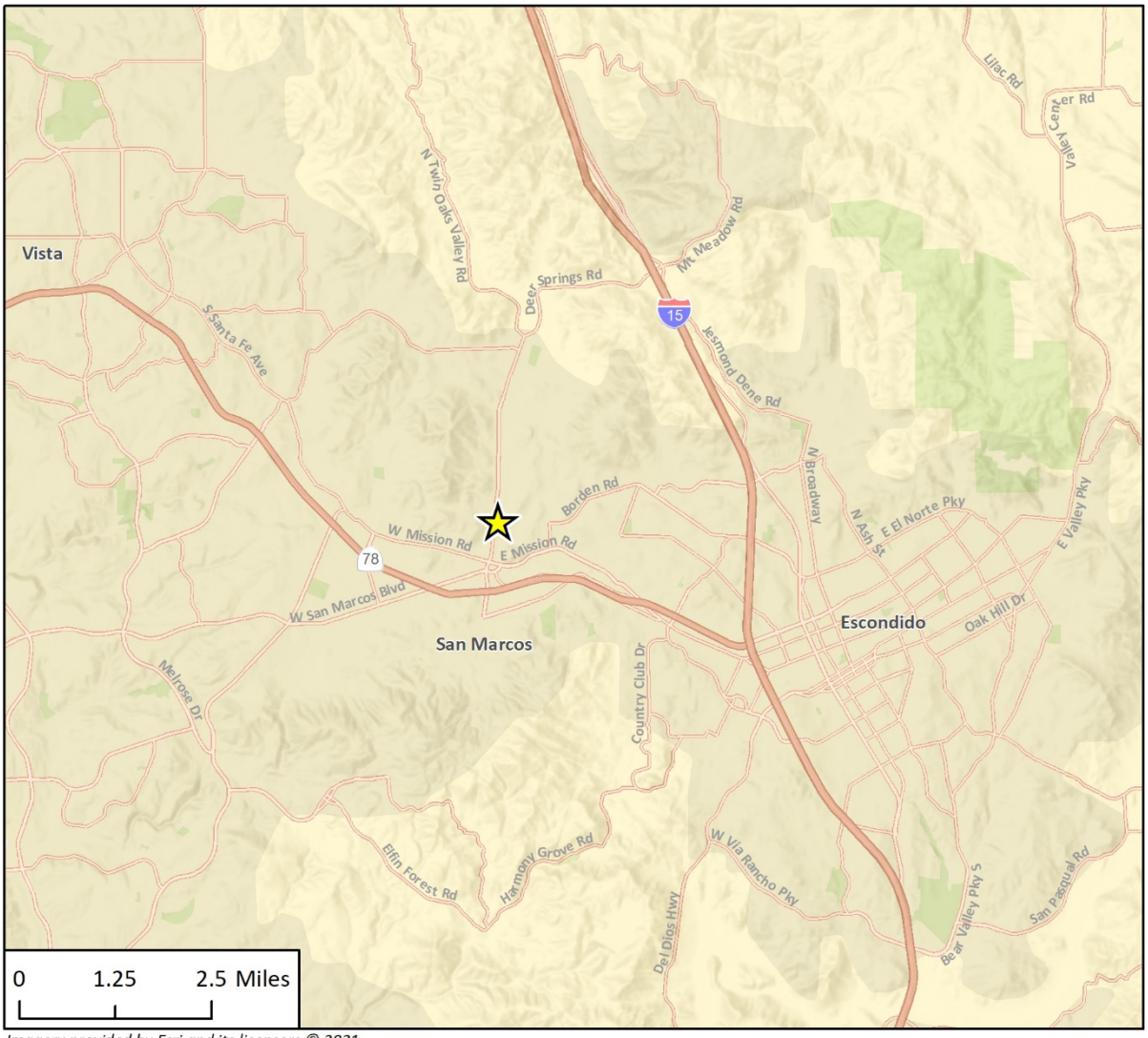
Mark Watson
The Namou Group, LLC
450 West El Norte Parkway
Escondido, California 92026
(760) 443-6699

6. Related Permits and other Public Approvals

The proposed project requires the following entitlements:

- Conditional Use Permit (CUP20-0006) for operation of a fuel station, car wash, and convenience store
- Variance (V20-0002) for a zone boundary encroachment onto Borden Road
- Additional permits required for project construction including Grading Permits, Improvement Plans, landscape Plans, and Building Permits.
- Approval from Vallecitos Water District
- Approval from the San Diego County Air Quality Control District (for fuel station permit)

Figure 1 Regional Project Location



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Additional data provided by SANDAG 2018.

Project Location

N

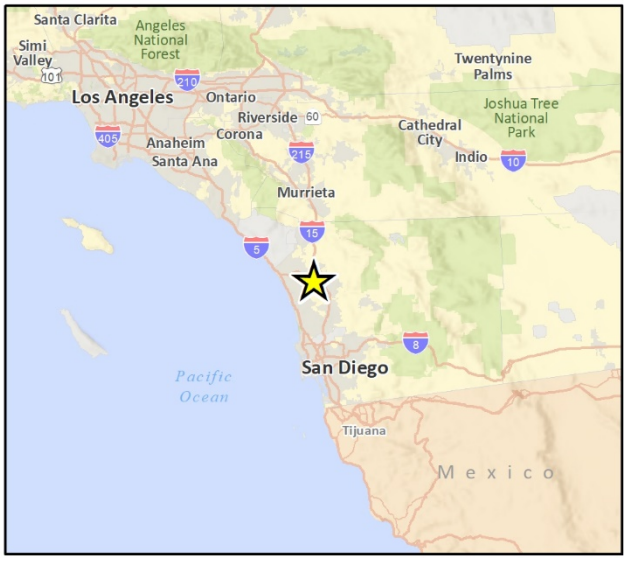


Figure 2 Project Location

- Additional permits as may be required by US Army Corp of Engineers, US Fish and Wildlife Service, California Fish and Wildlife, and/or the Regional Water Quality Control Board

7. General Plan Designation

The City of San Marcos designates the General Plan land use for the project site as Commercial (C).

8. Zoning

The City of San Marcos identifies the zoning for the project site as Commercial.

9. Description of Project

The project proposes to develop the vacant 2.5-acre site located at the southeast corner of Twin Oaks Valley Road and Borden Road with an automotive fueling station. The station would consist of a 5,462-square foot (sf) fuel pump canopy, a 4,083-sf convenience store with 712 sf of storage space, a 2,134-sf automated car wash with 1,138 sf of vacuum canopy, and a 176-sf trash enclosure. Table 1 provides details for the proposed project development.

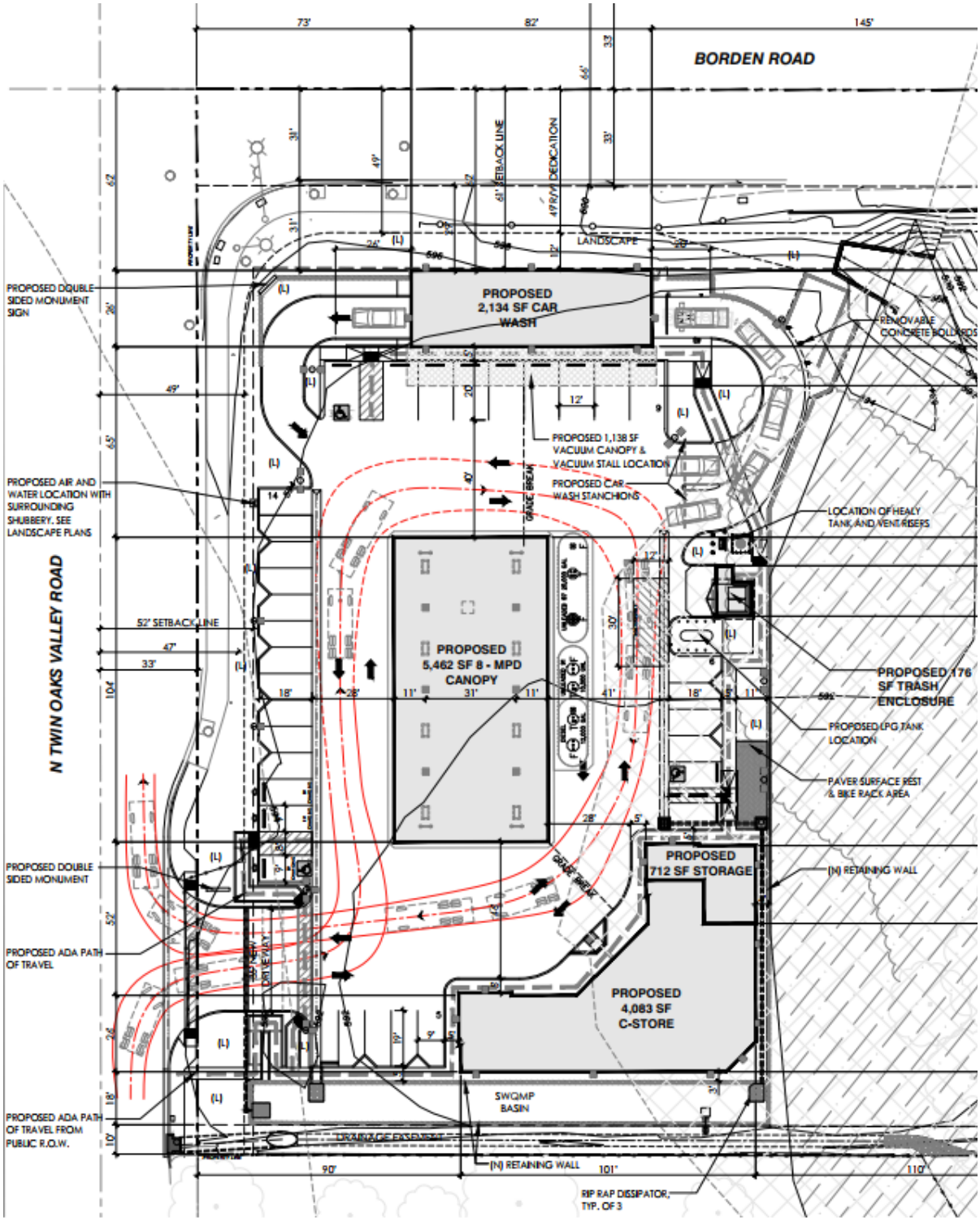
With Twin Oaks Valley Road providing access, site improvements would include 25 parking spaces, vacuum stations serving the nine parking spaces on the south side of the car wash, a trash enclosure, a bicycle rack area, and a 2,303-sf biofiltration basin along the southern (downslope) project site boundary. The car wash anticipates operating between the hours of 8:00 a.m. to 7:00 p.m. seven days a week.

Figure 3 details the proposed project site plan.

Table 1 Project Summary

Proposed Building Space		**Area Proposed (sf)**
Convenient Store		4,083
Storage Space		712
Fuel Canopy		5,462
Car Wash		2,134
Vacuum Canopy		1,138
Total		**13,705**
Parking	**Required**	**Proposed**
	21 spaces (1 handicap stall)	25 spaces (3 handicap stalls)
Bicycle Parking	**Required**	**Proposed**
	1 space/5,000 sf of gross floor area (2 spaces minimum)	5 spaces
Landscaping	**Required**	**Proposed**
Landscape area (total site)	10 percent of the net developable site, in addition to required setbacks.	37,776 sf (12.58 percent of total site)

Figure 3 Site Plan



Project Design Features

The proposed project has included multiple design features intended to demonstrate compliance with the City's Climate Action Plan and reduce greenhouse gas emissions from the project. These features include:

- The provision of three electric vehicle charging stations
- The inclusion of a photovoltaic system on the rooftop of the car wash; the rated capacity of the system would be approximately 45 kW
- The compliance with the City's Water Efficient Landscape Ordinance
- The planting of 24 trees, including four Marina arbutus, four coast live oaks, and 16 Desert Museum palo verdes

10. Surrounding Land Uses and Setting

The undeveloped project site located in an urbanized area primarily developed with commercial, industrial, and residential buildings, consists of sparse patches of exposed soils with dense grasses and riparian vegetation. Twin Oaks Valley Creek trends northeast to southwest abutting the eastern portion of the project site.

11. Have California Native American Tribes Traditionally and Culturally Affiliated with the Project Area Requested Consultation Pursuant to Public Resources Code Section 21080.3.1?

To date, the City of San Marcos has received 3 requests for consultation for the proposed project pursuant to Assembly Bill (AB) 52, including from the San Luis Rey Band of Mission Indians, the Rincon Band of Luiseño Indians, and the Pechanga Band of Luiseño Indians. See Section 18, *Tribal Cultural Resources*, for additional discussion.

Environmental Factors Potentially Affected

This project would potentially affect the environmental factors checked below, involving at least one impact that is "Potentially Significant" or "Less than Significant with Mitigation Incorporated" as indicated by the checklist on the following pages.

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

Determination

Based on this initial evaluation:

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

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

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

☐ I find that the proposed project MAY have a "potentially significant impact" or "less than significant with mitigation incorporated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

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

Art Pinon

Digitally signed by Art Pinon
DN: cn=Art Pinon, o=City of San Marcos, ou=Signature, email=apinon@san-marcos.net, c=US
Date: 2021.07.22 15:28:54 -07'00'

Signature

Date

Printed Name

Title

Environmental Checklist

1 Aesthetics

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	■	☐
b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	■
c. Substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	■	☐
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	☐	☐	■	☐

a. Would the project have a substantial adverse effect on a scenic vista?

According to the City of San Marco's General Plan Conservation and Open Space Element, scenic resources in the City include, but are not limited to, undeveloped hillsides; prominent land-forms such as the San Marcos Mountains, Merriam Mountains, Mount Whitney, Cerro de La Posas, Double Peak, Owens Peak, and Franks Peak; creek corridors; eucalyptus stands; rock outcroppings; landmarks or historic buildings; and ocean views (City of San Marcos 2013). The nearest scenic resource to the proposed project site names the Twin Oaks Valley Creek corridor abutting the eastern boundary of the project site. The City also designates the Secondary Ridgeline of the Santa Fe Hills, located approximately 0.6-miles northwest of the project site, as a scenic resource. In addition, the project site does not lie within the Ridgeline Protection and Management Overlay Zone (City of San Marcos 2012).

The proposed project would involve construction of a new fuel station, convenience store, and automated car wash on a historically vacant site. The project is in an urban area of the City and

surrounded by Borden Road and commercial buildings to the north, North Twin Oaks Valley Road and an industrial facility to the west, and a commercial building to the south.

Although located adjacent to the Twin Oaks Valley Creek, the existing use of the project site is not conducive to public or private views of the creek corridor. The proposed project would include a single-story convenience store with a maximum height of 24.5 feet, a gas station 20 feet in height, and a self-service car wash with a maximum height of 22 feet. The Borden Road bridge, located north of the project site, offers views of Twin Oaks Valley Creek to the north and south and would not be affected under the proposed project. Views of the creek corridor would remain unaltered. Furthermore, the nearest structure of the proposed project would be set back approximately 100 feet from the Twin Oaks Valley Creek and would not degrade the integrity of the creek itself through this setback and compliance with applicable federal and State permits. Thus, the proposed project would not have a substantial adverse effect on the creek corridor.

LESS THAN SIGNIFICANT IMPACT

b. Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

There are no State scenic highways located in or near the project area (Caltrans 2019). State Route 78 (Ronald Packard Parkway) bisects San Marcos. The City of San Marcos General Plan designates State Route 78 as a view corridor and is eligible as a State scenic highway. State Route 78 is located approximately 0.9 mile south of the project site. The project site would not be visible from State Route 78 and would not directly damage or block the view of the scenic resources visible from State Route 78. Therefore, the proposed project would not affect scenic resources within a State scenic highway.

NO IMPACT

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

See response 1a) regarding public views of and from the project site.

Located in an urbanized area, the proposed development would be visually compatible with the surrounding buildings. The proposed single-story convenience store, fuel station, and car wash would be consistent with the height standards and regulations set forth in the San Marcos Municipal Code (SMMC). Due to the proposed design of the site, retaining walls would be installed along the southern and eastern portions of the development, and the visible portions of the retaining walls would be designed with visually appealing materials. The project would not conflict with applicable zoning and other regulations governing scenic quality, and therefore, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

The project is in an urbanized area that is primarily developed with commercial, industrial, and residential buildings. Existing lighting sources consist of streetlights along Twin Oaks Valley Road and Borden Road and exterior building lighting associated with surrounding structures, as well as lights

from passing vehicles at night. Existing structure windows and parked or passing vehicles create sources of glare in the area.

The proposed project would generate new light sources from the convenience store, fuel station canopy, and vehicles entering and exiting the property. These light sources would be comparable to the surrounding residential developments, commercial buildings, and light industrial infrastructure. The proposed project would not utilize reflective materials that would create a significant amount of glare. The proposed project would also be required to comply with the light and glare guidelines set by Section 20.300.080, *Light and Glare Standards*, of the SMMC.

The project would include 24 total trees including four Marina arbutus trees, four coast live oak trees, and 16 Desert Museum palo verde trees, as well as a landscaped bioretention basin to the south and multiple shrubs and groundcover along the perimeter of the fuel station. The addition of this landscaping would soften the appearance of the project site and contribute to the reduction of light and glare from vehicles and building lights.

Therefore, the proposed building materials and landscaping, along with compliance with the SMMC, would result in a less than significant impact related to light and glare.

LESS THAN SIGNIFICANT IMPACT

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2 Agriculture and Forestry Resources

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

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

b. Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?

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

d. Would the project result in the loss of forest land or conversion of forest land to non-forest use?

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

The project site is in an urbanized area of San Marcos not labeled as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (California Department of Conservation 2020a), the project site lies in a designated Urban and Non-Farmland/Open Space according to Figure 4-4 *Agricultural Areas* in the City of San Marcos General Plan Open Space and Conservation Element (City of San Marcos 2013). The site is not labeled as forestland or farmland and is not currently used for agricultural purposes or outlined within a Williamson Act contract. The proposed project would not involve any conversion of farmland or forestland to non-agricultural, non-forest use. Therefore, the proposed project would have no impact on forestland or related to the conversion of farmland to non-agricultural uses.

NO IMPACT

3 Air Quality

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

Located in the San Diego Air Basin (SDAB) and bordered by the South Coast Air Basin to the north, the Salton Sea Air Basin to the east, the United States/Mexico border to the south, and the Pacific Ocean to the west, the project site lies approximately 9 miles inland from the coast in an interior valley. Air pollutant emission sources in the SDAB are typically grouped into two categories: stationary and mobile sources. Stationary sources can be divided into two major subcategories: point and area sources. Point source emissions originate from manufacturing and industrial processes, whereas area emissions originate from residential heaters, small engines, and other consumer products. Mobile source emissions can be attributed to vehicles and transportation-related activities. Both major emissions categories are widely distributed within SDAB and may have a cumulative effect.

Rincon Consultants, Inc. prepared an Air Quality and Greenhouse Gas Study to analyze the project's air quality emissions and impacts on surrounding sensitive land uses. The analysis considered temporary construction impacts and long-term operation air quality impacts associated with the project. The results of the Air Quality and Greenhouse Gas Study are used in the analysis for this section and are included as Appendix AQ/GHG.

Air Quality Standards and Attainment

Enacted in 1970, the federal Clean Air Act (CAA) was 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], the U.S. Environmental Protection Agency (USEPA) developed primary and secondary national ambient air quality standards (NAAQS) for ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter with a diameter of

up to ten microns (PM_{10}) and up to 2.5 microns ($PM_{2.5}$), and lead (Pb). Ambient Air Quality Standards represent the maximum levels of background pollution considered safe, with an adequate margin of safety, to protect the public health and welfare.

The California Clean Air Act (CCAA) was enacted in 1988 (California Health & Safety Code (H&SC) §39000 et seq.). While USEPA is the federal agency designated to administer air quality regulation, the California Air Resources Board (CARB) is the State equivalent in the California EPA (CalEPA). Under the CCAA, the State has developed the California Ambient Air Quality Standards (CAAQS), which are generally more stringent than the NAAQS. Like 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.

Located within the SDAB, the project site is designated a nonattainment area for the federal and State eight-hour ozone standards, State one-hour ozone standards, and for State PM_{10} and $PM_{2.5}$. The SDAB is designated unclassifiable or in attainment for all other federal and State standards (San Diego Air Pollution Control District [SDAPCD] 2021).

The health effects associated with criteria pollutants for which the SDAB is in non-attainment are described in Table 2.

Table 2 Health Effects Associated with Non-Attainment Criteria Pollutants

Pollutant	Adverse Effects
Ozone	Short-term exposures: (a) pulmonary function decrements and localized lung edema in humans and animals and (b) risk to public health implied by alterations in pulmonary morphology and host defense in animals; and, Long-term exposures: risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans.
Suspended particulate matter (PM_{10})	(1) Excess deaths from short-term and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease, including asthma.[a]
Suspended particulate matter ($PM_{2.5}$)	(1) Excess deaths from short- and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes, including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children, such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease, including asthma.[a]

[a] More detailed discussions on the health effects associated with exposure to suspended particulate matter can be found in the following documents: USEPA, Air Quality Criteria for Particulate Matter, October 2004.

Source: U.S. EPA 2021, https://www.epa.gov/criteria-air-pollutants

Air Quality Management

The SDAPCD is the designated air quality control agency for the SDAB. The SDAPCD developed the San Diego Regional Air Quality Strategy (RAQS) pursuant to CCAA requirements. The RAQS was initially adopted in 1991 and updated in 1995, 1998, 2001, 2004, 2009, 2016, and 2020 (SDAPCD 2020). The RAQS identifies feasible emission control measures to provide progress in San Diego

County toward attaining the State ozone standard. The pollutants addressed in the RAQS are volatile organic compounds (VOCs) and NO_X, precursors to the photochemical formation of ozone (the primary component of smog). The RAQS was initially adopted by the SDAPCD Board on June 30, 1992, and amended on March 2, 1993, in response to CARB comments. At present, no attainment plan for PM_{10} or $PM_{2.5}$ is required by the state regulations. However, SDAPCD has adopted measures to reduce PM_{10} and $PM_{2.5}$ in San Diego County. These measures range from regulation against open burning to incentive programs that introduce cleaner technology. These measures can be found in a report titled "Measures to Reduce Particulate Matter in San Diego County" (2005) found on the SDAPCD website (http://www.sdapcd.org).

The RAQS relies on information from CARB and San Diego Association of Governments (SANDAG), including mobile and area source emissions, as well as information regarding projected growth in the County, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls.

Air Quality Criteria Pollutant Significance Thresholds

The SDAPCD has adopted numerical air quality impact analysis trigger levels to determine whether an air pollution source could contribute individually or cumulatively to the worsening local or regional air quality. These trigger levels are also used by planning agencies and local jurisdictions as screening level thresholds for comparative purposes when evaluating projects under the California Environmental Quality Act (CEQA). Thus, a project that does not exceed these SDAPCD screening level thresholds would have a less than significant impact for air quality significance criterion b. The screening level thresholds for temporary construction and long-term operational emissions in the SDAB are shown in Table 3.

Table 3 SDAPCD Screening Level Thresholds

Pollutant	Total Emissions (lbs/day)
ROG/VOCs	250
NO_x	250
CO	550
SO_x	250
PM_{10}	100
$PM_{2.5}$	67

Source: SDAPCD 2020b Rule 20.2.

The SDAPCD does not have a specified threshold for health risk impacts from toxic air contaminants (TACs). Rule 1200 for the SDAPCD relates to review of new sources for TACs. The rule states that new sources with a maximum incremental cancer risk greater than 10 in one million shall conduct the following to obtain an Authority to Construct or Permit to Operate: implementation of Toxics Best Available Control Technology (T-BACT) and a report in support of approving an Authority to Construct the project, which includes methods to reduce cancer risk. As the maximum incremental cancer risk greater than 10 in one million is used by SDAPCD to determine projects that must meet a high standard for Authority to Construct, that limit is used for the determination of impacts in this analysis.

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

The SDAPCD is required, pursuant to the federal Clean Air Act, to reduce emissions of criteria pollutants for which the SDAB is in nonattainment. Strategies to achieve these emissions reductions are developed in the RAQS, prepared by the SDAPCD for the region. Forecasts used in the RAQS are developed by SANDAG. SANDAG forecasts are based on local general plans and other related documents that are used to develop population, employment, and traffic projections. Consistency with the RAQS is determined by analyzing a project with the assumptions in the RAQS. As such, projects that propose development that is consistent with the growth anticipated by the local land use plan would be consistent with the SANDAG's growth projections and the RAQS emissions estimates. If a project would propose development that is less dense than anticipated by the growth projections, the project would likewise be consistent with the RAQS. In the event a project proposes development that is greater than anticipated in the growth projections, further analysis would be warranted to determine if the project would exceed the growth projections used in the RAQS for the specific subregional area.

The project site is zoned Commercial, and the General Plan land use designation for the project site is Commercial. The project proposes development of a convenience store with fuel pumps and an automated car wash. As the project would include development consistent with the land use designation, the project would not generate population and employment growth beyond the levels assumed for the region and would, therefore, not conflict with or obstruct implementation of the RAQS. Impacts to the San Diego RAQS would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

Construction

Construction emissions were calculated using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2 (Appendix AQ/GHG). Project construction would primarily generate temporary criteria pollutant and greenhouse gas (GHG) emissions from construction equipment operation on-site, construction worker vehicle trips to and from the site, and from export of materials off-site. Table 4 summarizes maximum daily and annual emissions of pollutants throughout the construction period of the project.

Table 4 Construction Criteria Pollutant Emissions

	Maximum Daily Emissions (lbs/day)					
Construction Year	**ROC**	**NO_x**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Construction Year 2021	32	40	17	<1	9	5
SDAPCD Thresholds	250	250	550	250	100	67
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

See Appendix AQ/GHG for modeling results. Some numbers may not add up due to independent rounding.

Emissions would not exceed SDAPCD screening level thresholds during project construction. Therefore, project construction would not result in a cumulatively considerable net increase of a criteria pollutant, and impacts would be less than significant.

Operational

Emissions associated with project operations were calculated using CalEEMod. Project operations would primarily generate temporary criteria pollutant from vehicles trips generated by the project; additional sources of air pollutant emissions include consumer product use and architectural coatings, and landscaping equipment. The project would not use natural gas. Table 5 summarizes emissions associated with operation of the project.

Table 5 Operational Criteria Pollutant Emissions

	Maximum Daily Emissions (lbs/day)					
Emissions Source	**ROC**	**NO_x**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Area	<1	<1	<1	<1	<1	<1
Energy	<1	<1	<1	<1	<1	<1
Mobile	3	9	19	<1	3	1
Project Emissions	3	9	19	<1	3	1
SDAPCD Thresholds	250	250	550	250	100	67
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Notes: See Appendix A for modeling results. Some numbers may not add up due to independent rounding.

As shown, emissions generated during the operation of project would not exceed SDAPCD screening level thresholds. Therefore, the project would not result in a cumulatively considerable net increase of a criteria pollutant, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c. Would the project expose sensitive receptors to substantial pollutant concentrations?

The term "sensitive receptor" refers to a person in the population who is more susceptible to health effects due to exposure to an air contaminant than the population at large or to a land use that may reasonably be associated with such a person. Examples of such land uses include residences, schools, playgrounds, childcare centers, churches, athletic facilities, retirement homes, and long-term health care facilities. Sensitive receptors that may be affected by air quality impacts associated with the proposed project construction and operation include the Royal Oaks Senior Apartments senior care facility located approximately 200 feet to the east, single-family residences located 500 feet to the east, beyond the Royal Oaks Senior Apartments, and single-family residences located approximately 400 feet to the southwest.

Construction

Construction-related activities would result in short-term, project-generated emissions of diesel particulate matter (DPM) exhaust emissions from off-road, heavy-duty diesel equipment for site

preparation grading, building construction, and other construction activities. DPM was identified as a TAC by CARB in 1998. The potential cancer risk from the inhalation of DPM (discussed in the following paragraphs) outweighs the potential non-cancer health impacts (CARB 2020). At this time, SDAPCD has not adopted a methodology for analyzing such impacts.

Generation of DPM from construction projects typically occurs in a single area for a short period. Construction of the proposed project would occur over approximately 6 months. The dose to which the receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the Maximally Exposed Individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a longer period. According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 30-year exposure period (assumed to be the approximate time that a person spends in a household). OEHHA recommends this risk be bracketed with 9-year and 70-year exposure periods. Health risk assessments (HRAs) should be limited to the period/duration of activities associated with the project.

The maximum $PM_{2.5}$ emissions, which is used to represent DPM emissions for this analysis, would occur during site preparation and grading activities. While site preparation and grading emissions represent the worst-case condition, such activities would only occur for about a month, less than one percent of the typical health risk calculation periods of 9 years, 30 years, and 70 years. $PM_{2.5}$ emissions would decrease for the remaining construction period because construction activities such as building construction and paving would require less construction equipment. Therefore, DPM generated by project construction is not expected to create conditions where the probability that the Maximally Exposed Individual would contract cancer is greater than 10 in one million. This impact would be less than significant.

Operation

The automotive fueling station would require Authority to Construct and Permit to Operate approval from the SDAPCD, which would review the facility design and location for compliance with applicable air quality standards. All tanks and dispensers would be equipped with the latest Phase I and Phase II Enhanced Vapor Recovery (EVR) air pollution control equipment technology per CARB regulations and associated Executive Orders. The Phase I EVR equipment controls the vapors in the return path from the on-site fuel storage tanks back to the tanker truck during offloading filling operations. Phase I EVR systems are 98 percent effective in controlling fugitive emissions from escaping into the environment. The Phase II EVR equipment, which also includes “in-station diagnostics,” controls and monitors the vapors in the return path from the fuel dispensers back to the on-site fuel storage tanks. Phase II EVR systems are 95 percent effective in controlling fugitive emissions from escaping into the environment.

The annual fuel throughput of the proposed gasoline station service would be approximately 2.7 million gallons (MG) a year, includes Phase I and Phase II vapor recovery systems, and would be located in an urban area approximately 200 feet from the nearest sensitive receptor, a senior living facility. Based on 200 feet to the nearest receptor, the default cancer risk is 1.53 per one million for a station with an annual throughput of 1 MG. As such, the estimated cancer risk for the station with a 2.7 MG annual throughput is estimated to be 4.13 per one million (2.7 MG/1 MG * 1.53 = 4.13 cancer risk). The cancer risk estimate is conservative as the nearest residents and sensitive receptors

are a senior living facility, which means receptors at that location would need to be exposed to emissions from the gasoline station for less than 70 years and the cancer risk would be further reduced. The screening risk assessment does not indicate that the gasoline station would cause a risk of concern, nor does it exceed the threshold of 10 in a million.

In addition, the proposed gasoline station meets the California Air Pollution Control Officer's Association (CAPCOA) land use guidelines such that the nearest sensitive receptors are located greater than the recommended 50-foot separation between residences and typical gas dispensing facilities. CARB defines "large gasoline dispensing facilities" as those with 3.6 MG per year or greater of throughput; therefore, the proposed gas station with a 2.7 MG throughput annually would not meet the CARB definition for a large facility and is considered to be "typical" (CARB 2005).

Furthermore, gas station permit applications with the SDAPCD fall under a general HRA that is in place with the SDAPCD and a project-specific HRA is not required (Creaven 2018) since use categories such as gas stations are considered small foot-print facilities with small zones of impact (Office of Environmental Health Hazard Assessment [OEHHA] 2015)).

Other long-term operational emissions include toxic substances such as cleaning agents in use on site. Compliance with State and federal handling regulations would ensure that emissions remain below a level of significance. The use of such substances such as cleaning agents is regulated by the 1990 federal CAA Amendments as well as State-adopted regulations for the chemical composition of consumer products. Project-related TAC emission impacts during operation would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

Construction

Construction activities would be temporary and transitory and associated odors would cease upon construction completion. Accordingly, the proposed project would not create objectionable odors affecting a substantial number of people during construction, and short-term impacts would be less than significant.

Operation

As discussed in CARB's *Air Quality and Land Use Handbook*, land uses typically associated with odor complaints from operation include sewage treatment plants, landfills, recycling facilities, waste transfer stations, petroleum refineries, biomass operations, autobody shops, coating operations, fiberglass manufacturing, foundries, rendering plants, and livestock operations (CARB 2005). On-site fuel storage tanks and dispensers would be equipped with vapor recovery systems to minimize fugitive emissions of fuel vapors and would thereby minimize fuel vapor odors. Nonetheless, minor amounts of odorous fuel vapors may be released. Additionally, vehicles approaching, idling, and leaving the site may release odorous exhaust emissions. As the project site is located at the intersection of two arterial roads, Twin Oaks Valley Road and Borden Road, vehicle exhaust is already prevalent. Odors of this nature dissipate quickly with distance and do not typically result in odor impacts. As the project would not include a land use typically associated with odor complaints, operational odor impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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4 Biological Resources

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

Existing Conditions

Rincon Consultants, Inc. completed a Biological Resources Assessment on the project site that also included a jurisdictional delineation and focused special-status species surveys. The full report is included as Appendix BIO.

Topography and Soils

The project site is an undeveloped lot adjacent to Twin Oaks Valley Creek, and is relatively flat, with two soils being identified: Huerhuero Loam and Placentia sandy loam. Huerhuero Series soils generally lay on marine terraces and consist of calcareous alluvium derived from sedimentary rock. Placentia sandy loam is found on much of the site and are formed in alluvium from granite and other rocks of similar composition and texture.

Vegetation Communities and Land Cover

Three vegetation communities and one land cover type were identified on the project site. Most of the project site is disturbed, ruderal landcover (1.17 acres). The Twin Oaks Valley Creek corridor along the eastern edge of the project site contains Southern Cottonwood Willow Riparian Forest. The northern and western edges of the project site contain Diegan Sage Scrub (including disturbed). Other vegetation communities and land cover types observed within the study area but not on the project site include non-native grassland and developed areas. These two vegetation communities and land cover types are not discussed in this report as they are located outside of the project site.

Aerial photos indicate the Diegan Coastal Sage Scrub on site was planted after the completion of the adjacent Borden Road Bridge Project in 2013 (see Appendix BIO). The planted area supports narrow strips approximately 15-20 feet wide of Diegan Coastal Sage Scrub and is situated along Borden Road to the north and along Twin Oaks Valley Road to the west of the project site. Developed areas and disturbed habitat surround this habitat within the study area eliminating the possibility of habitat continuity for special status species such as California Gnatcatcher (CAGN). The study area therefore does not comprise suitable habitat for CAGN. Diegan Coastal Sage Scrub is considered a sensitive community by the City of San Marcos and the MHCP, falling under the Habitat Group C. Diegan Coastal Sage Scrub comprises approximately 0.81 percent of the study area.

A small patch of disturbed Diegan Coastal Sage Scrub is found near the center of the project site. This vegetation community is dominated by San Diego goldenbush (*Isocoma menziesii*), black mustard (*Brassica nigra*), and Bermuda grass (*Cynodon dactylon*). The extent of black mustard and Bermuda grass as well as previous disturbance activities led to the classification of this habitat type as disturbed Diegan Coastal Sage Scrub. Disturbed Diegan Coastal Sage Scrub comprises approximately 0.17 percent of the study area.

Southern Cottonwood-Willow Riparian forest is found bordering the Twin Oaks Valley Creek along the eastern portion of the project site and along the southern portion of the project site (0.59 acre). Plant species associated with this habitat include western sycamore *(Populus racemosa*), western cottonwood, Goodding's black willow (*Salix gooddingii)*, arroyo willow (*Salix lasiolepis*), red willow (*Salix laevigata*), and Douglas mugwort (*Artemisia douglasiana)*. Plant species detected on-site included arroyo willow, western cottonwood, Douglas mugwort, great marsh evening-primrose (*Oenothera elata spp. hookeri*), red willow, Goodding's black willow, and mule-fat (*Baccharis salicifolia*). Southern Cottonwood Willow Riparian Forest is considered a sensitive community by the City, falling under the Habitat Group A by the MHCP.

The center of the project site is dominated by disturbed habitat/ruderal landcover. This landcover type contains bare ground and ruderal species such as stinkwort (*Dittrichia graveolens*), Bermuda grass, fennel (*Foeniculum vulgare*), black mustard, castor bean (*Ricinus communis*), tree tobacco (*Nicotiana glauca*) and other invasive plant species. Monotypic stands of western ragweed (*Ambrosia psilostachya*), which occur in disturbed habitat, was observed within the study area's disturbed portions.

Common Wildlife

Common species observed during field surveys include Bewick's wren (*Thryomanes bewickii*), bushtit (*Psaltriparus minimus*), house finch (*Haemorhous mexicanus*), Anna's hummingbird (*Calypte anna*), western kingbird (*Tyrannus verticalis*), red-tailed hawk (*Buteo jamaicensis*), spotted towhee (*Pipilo maculatus*), and mourning dove (*Zenaida macroura*). One common reptile, western fence lizard (*Sceloporus occidentalis*) and two common mammals, California ground squirrel (*Otospermophilus beecheyi*) and desert cottontail (*Sylvilagus audubonii*), were observed in the project site.

Borden Road Bridge Project – Area Mitigation Land

Environmental evaluation of the Borden Road Bridge project in 2008, determined that the installation of the bridge would impact southern cottonwood willow riparian forest, southern willow scrub-revegetated, and unvegetated channel along San Marcos Creek, and non-native grassland. The wetland delineation determined the limits of the areas under the jurisdiction of the U.S. Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Game. Focused surveys identified three least Bell's vireo occupying two territories within 500 feet of the bridge project site. (San Marcos 2008a).

Mitigation was required to address the impacts of the bridge project, including the stipulation that a minimum of 1.15 acres of wetlands was required to be created. Wetland impacts and mitigation was to be implemented to the satisfaction of the U.S. Army Corps of Engineers through a Nationwide Permit #14 and the California Department of Fish and Game through a 1602 Streambed Alteration Agreement. Impacts to the least Bell's vireo and mitigation was to be implemented to the satisfaction of the U.S. Fish and Wildlife Service through a Section 7 Consultation with the U.S. Army Corps of Engineers. (San Marcos 2008a).

As detailed in the U.S. Army Corps of Engineers Nationwide Permit #14 (File No. SPL-2008-01050-MLM) authorization, dated August 25, 2011, a 0.036 acres portion of the proposed project site was used as wetland creation area for the Borden Bridge project. (Figure 3 "Mitigation Area" of the Nationwide Permit #14). This area is in the northeast corner of the project site, northeast and abutting the existing City storm water outfall that is on-site. (U.S. ACOE 2011).

The proposed project would not disturb the designated mitigation land located in the northeast corner of the project site, as detailed on the preliminary grading plan and proposed landscape plan.

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

The project site contains special-status biological resources, including sensitive vegetation communities and suitable habitat for nesting birds.

Sensitive Plant Communities

The Diegan Coastal Sage Scrub mapped in the project site falls within the City's "Coastal Sage Scrub" habitat group and type, which is considered Group C habitat per the Multiple Habitat Conservation Plan (MHCP). The Southern Cottonwood-Willow Riparian Forest mapped on the project site falls with the City's "Riparian" habitat group which is considered Group A habitat by the MHCP. As such, the MHCP dictates minimum mitigation ratios for each of these habitat types in or outside of a focused planning area (FPA). The study area is not within the FPA hardline or softline area.

Special Status Plants

No special-status plant species were observed in the project site during the biological survey. Many of the species with recorded occurrences in the project site vicinity are associated with habitats not found on the project site, including species associated with vernal pools, which are not present on-site (Rincon 2020a).

San Diego Ambrosia

One special-status species, San Diego ambrosia, has a low potential to occur on the project site due to the presence of marginally suitable habitat and recent records from within 10 miles of the project site. This species is an easily identifiable herb. However, this species was not detected during the reconnaissance survey and subsequent site visits. The reconnaissance survey was conducted at the end of the blooming period for this species (April – October). No other special-status plant species found during desktop research would be expected to occur in the study area due to lack of suitable habitat. Impacts to San Diego ambrosia are therefore not anticipated and no mitigation is required.

Special Status Wildlife

California Gnatcatcher

A habitat assessment for California Gnatcatcher was conducted due to the presence of Diegan Coastal Sage Scrub and disturbed Diegan Coastal Sage Scrub in the study area (refer to Appendix BIO). Developed areas and disturbed habitat surround Diegan Coastal Sage Scrub within the study area, which prevents habitat continuity. Due to the small size of Diegan Coastal Sage Scrub on site and its isolated nature, the study area does not support habitat that is suitable for California Gnatcatcher.

Least Bell's Vireo

Twin Oaks Valley Creek contains suitable habitat for least Bell's vireo (*Vireo bellii pusillus*; LBVI) in the Southern Cottonwood-Willow Riparian habitat. The project site contains 0.69 acre of Southern Cottonwood-Willow Riparian Forest. Two LBVI territories were observed in the study area during protocol surveys conducted in 2020. These territories were located within dense stands of riparian vegetation. One territory was observed on the east side of Twin Oaks Valley Creek directly adjacent to the project site, and a second territory was observed southeast of the project site. Both territories contained a lone male. No LBVI nests were observed.

Project implementation would directly remove 0.59 acre of Southern Cottonwood-Willow Riparian Forest. This vegetation community is occupied by Least Bell's Vireo (LBVI) and this species will be directly impacted through the removal of habitat.

LBVI that is present both on-site and in adjacent areas would also be potentially affected by indirect impacts associated with the project, such as dust, noise, human presence, nighttime lighting, increase in predators, and spread of non-native species into occupied habitat. These indirect impacts could result in nest failures or individual mortality of LBVI.

Impacts to LBVI would be considered significant without mitigation. Implementation of Mitigation Measures BIO-1 and BIO-3 through BIO-6 would reduce project impacts to LBVI to less than significant.

Nesting Birds and Raptors

The project could adversely affect raptors and other nesting birds if construction occurs while they are present on or adjacent to the project site through direct mortality. The loss of a nest due to construction activities is prohibited by law and would be considered significant without mitigation. Implementation of Mitigation Measures BIO-2 through BIO-5 would reduce project impacts to nesting birds and raptors to less than significant.

Mitigation Measures

BIO-1 Least Bell's Vireo

Prior to site disturbance activities, and to avoid and minimize direct and indirect impacts to LBVI, construction activities shall occur outside the LBVI nesting season (March 1– September 1). Protocol LBVI surveys shall be conducted by a qualified biologist prior to implementation of construction activities. If surveys are negative for LBVI then no further mitigation is required. If surveys are positive, then implementation of Mitigation Measures BIO-3, BIO-4, and BIO-5 shall be required.

BIO-2 Nesting Birds and Raptors

Site clearance activities should occur between September 1 and January 31 to avoid impacts to nesting birds and raptors, to the extent feasible. If site clearing activities are conducted between February 1 and August 31, a qualified biologist shall conduct a nesting bird survey no more than three days prior to the start of such activities to identify nesting birds within the project site and a 250-foot buffer around the project site. If any nests are found, their locations shall be flagged and an appropriate avoidance buffer, ranging in size from 25 to 50 feet for passerines, and up to 500 feet for raptors depending upon the species and the proposed work activity, shall be determined and demarcated by a qualified biologist with bright orange construction fencing or other suitable flagging.

Active nests shall be monitored at a minimum of once per week until it has been determined that the nest is no longer being used by either the young or adults. No disturbance shall occur within this buffer until the qualified biologist confirms that breeding/nesting is completed, and all the young have fledged. If project activities must occur within the buffer, activities shall be conducted at the discretion of the qualified biologist and with monitoring and management to ensure that nesting birds and the nests are not disturbed. If no nesting birds are observed during the survey or during other monitoring activities, then no further actions shall be necessary. A follow-up survey will be needed if site clearing does not occur within three days after the initial survey.

BIO-3 Worker Environmental Awareness Program

Prior to site disturbance activities, the project proponent shall be required to provide a Worker Environmental Awareness Program (WEAP) for the construction crew that shall be developed and implemented by a qualified biologist. Each employee (including temporary, contractors, and subcontractors) shall receive the WEAP on the first day of working on the proposed project. They shall be advised of the potential impact to the listed species and the potential penalties for taking such species. At a minimum, the WEAP shall include the following topics: occurrence of the listed and sensitive species in the area, their general ecology, sensitivity of the species to human activities, legal protection afforded these species, penalties for violations of Federal and State laws, reporting requirements, and project features designed to reduce direct and indirect impacts to these species and promote continued successful occupation of the project area environs.

BIO-4 Work Limit Delineation

Prior to site disturbance activities, Construction work areas shall be delineated and marked clearly, by flagging or temporary orange construction fencing, in the field prior to habitat removal, and the marked boundaries shall be maintained and clearly visible to personnel on foot and by heavy equipment operators. Fencing shall be placed on the impact side to reduce the potential for additional vegetation loss within open space. Fencing shall be put in place by a qualified biologist or the project proponent. All temporary fencing shall be removed only after the conclusion of all grading, clearing, and construction. Employees shall strictly limit their activities and vehicles to the proposed project areas, staging areas, and routes of travel. The biological monitor shall verify that the limits of construction have been properly staked and are readily identifiable. Intrusion by unauthorized vehicles outside of construction limits shall be prohibited, with control exercised by an on-site foreman. Access routes to the construction area outside of work hours shall be blocked with physical barriers, such as concrete blocks or large equipment.

BIO-5 Biological Monitor

If complete avoidance of the LBVI nesting season is not feasible, a City-approved biological monitor shall be present during all construction activities within 500 feet of suitable LBVI habitat to ensure that avoidance measures are implemented such that noise levels do not exceed an average of 60 dB over an hour period. If nesting LBVI are found on site, a 500 ft buffer shall be established around the nest. No work will occur within the 500 ft buffer unless under the supervision of the biological monitor and appropriate noise attenuation measures have been implemented that ensure that noise levels do not exceed 60 dB near the nest location. The biological monitor shall have the authority to halt construction to prevent or avoid take of LBVI and/or to ensure compliance with all avoidance, minimization, and mitigation measures. Any unauthorized impacts or actions in non-compliance with the permits and construction documents shall be immediately brought to the attention of the USFWS.

BIO-6 Mitigation for Loss of Southern Cottonwood-Willow Riparian Forest

Prior to the issuance of grading permits, the project proponent shall mitigate project impacts to 0.59 acre of Southern Cottonwood-Willow Riparian Forest at a mitigation to impact ratio of 3:1. The project proponent shall therefore preserve 1.77 acres of Southern Cottonwood-Willow Riparian Forest through on-site preservation, off-site acquisition, in lieu fees, and purchase of credits from an approved mitigation bank, or a combination thereof, compliant with the MHCP and as approved by the City of San Marcos Planning Manager.

Significance After Implementation of Mitigation

Mitigation Measures BIO-1 through BIO-6 would reduce impacts to special status wildlife species to less than significant levels. With the implementation of these mitigation measures, the project would avoid impacts to special-status species such as LBVI and avoid violations of the Migratory Bird Treaty Act and California Fish and Game Code.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

b. 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?

Project implementation would potentially impact 0.22 acre of Diegan Coastal Sage Scrub, 0.06 acre of disturbed Diegan Coastal Sage Scrub (0.28 acre of total impacts to a Group C habitat group), and 0.59 acre of Southern Cottonwood-Willow Riparian Forest, which are sensitive vegetation communities. The mitigation ratios required by the MHCP based on the project site's location are summarized in Table 6. Impacts to Diegan Coastal Sage Scrub, disturbed Diegan Coastal Sage Scrub, and Southern Cottonwood-Willow Riparian Forest would be considered significant without mitigation. Thus, Mitigation Measures BIO-3, BIO-4, BIO-6, as detailed under Biological Resources criterion a, and BIO-7 would be required to avoid and minimize direct and indirect impacts to riparian habitat and other sensitive vegetation communities found at the project site.

Table 6 Vegetation Community/Land Cover Type on Site and Associated Mitigation Ratios

MHCP Habitat Group	Sensitive	Vegetation Community/ Land Cover Type (Holland Code)	Mitigation Ratio
Group C	Yes	Diegan Coastal Sage Scrub (32500)	2:1
Group C	Yes	Disturbed Diegan Coastal Sage Scrub (32500)	2:1
Group A	Yes	Southern Cottonwood-Willow Riparian Forest (61330)	3:1
Group F	No	Ruderal	None

Mitigation Measures

BIO-7 Mitigation for Loss of Diegan Coastal Sage Scrub and Disturbed Diegan Coastal Sage Scrub

Prior to the issuance of grading permits, the project proponent shall mitigate project impacts to 0.22 acre of Diegan Coastal Sage Scrub and 0.06 acre disturbed Diegan Coastal Sage Scrub (0.28 acre total) at a mitigation to impact ratio of 2:1. The project proponent shall therefore preserve 0.56 acre of Diegan Coastal Sage Scrub through on-site preservation, off-site acquisition, in lieu fees, a purchase of credits from an approved mitigation bank, or a combination thereof, compliant with the MHCP and as approved by the City of San Marcos Planning Manager.

Significance After Implementation of Mitigation

Mitigation Measures BIO-3, BIO-4, BIO-6, and BIO-7 would reduce impacts to riparian habitat and other sensitive vegetation communities to less than significant levels.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

c. 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?

Located along the eastern boundary of the project site, Twin Oaks Valley Creek originates in the foothills of the San Marcos Mountains and flows from north to south as it crosses through the study area. It continues flowing to the southwest before draining into the Batiquitos Lagoon and then to the Pacific Ocean. In the study area, Twin Oaks Valley Creek is a perennial drainage with dense riparian vegetation present along the streambanks. A forested wetland is located on the site adjacent to Twin Oaks Valley Creek that has been created by urban stormwater runoff from Twin Oaks Valley Road. This wetland does not directly connect to Twin Oaks Valley Creek.

Although a formal aquatic resources delineation report was not prepared, potentially jurisdictional areas were mapped. Within the study area, Twin Oaks Valley Creek contains 0.45 acre of non-wetland waters of the U.S./State and 0.23 acre of wetland waters of the U.S./State under the jurisdiction of the United States Army Corps of Engineers (USACE) and San Diego Regional Water Quality Control Board (RWQCB), respectively. Twin Oaks Valley Creek also contains 1.82 acres of streambed and riparian vegetation under the jurisdiction of California Department of Fish and Wildlife (CDFW) (Appendix BIO).

The project site contains Twin Oaks Valley Creek and associated wetland potentially under the jurisdiction of USACE, RWQCB, and CDFW. Project implementation would impact 0.09 acre and 256 linear feet of non-wetland waters of the United States (U.S.)/State and 0.23 acre of wetland waters of the U.S./State under the jurisdiction of USACE and RWQCB, and 0.55 acre and 520 linear feet of streambed under the jurisdiction of CDFW (see Figure 9 of Appendix BIO). A CWA Section 404 Permit would be required from the USACE for impacts to jurisdictional waters of the U.S. In addition to a Section 404 Permit, the USACE's authorization of the project would require issuance of a Section 401 Water Quality Certification by the San Diego RWQCB. The CDFW issues an LSAA when project activities have the potential to impact intermittent and perennial streams, rivers, or lakes. Based on the nature of the project, it is likely an LSAA would be required. These impacts would be considered significant without mitigation.

Mitigation Measures

BIO-8 Prepare an Aquatic Resources Delineation Report and Obtain Agency Permits

Prior to site disturbance activities, a Delineation Report shall be prepared to provide official quantification of the impacts to wetlands/waters of the U.S./Waters of the State and for use in permitting. The project proponent shall also obtain a Clean Water Act Section 404 Permit from the USACE for impacts to jurisdictional waters of the U.S., a CWA Section 401 Water Quality Certification from the RWQCB, and a Lake or Streambed Alteration Agreement from CDFW.

BIO-9 Mitigation for Jurisdictional Waters

Prior to the issuance of grading permits, permanent impacts to jurisdictional waters and wetlands shall be mitigated as required by the MHCP and shall be no less than what is required by the permitting agencies. To mitigate temporary impacts to jurisdictional waters and wetlands, the project proponent shall restore temporarily disturbed jurisdictional areas at a 1:1 ratio. To mitigate permanent impacts to 0.09 acre of non-wetland waters of the U.S., 0.23 acre of wetland waters, and 0.55 acre of streambeds, the project proponent shall restore in-kind habitat on site at a 3:1 ratio, as approved by USACE, CDFW, and RWQCB. The project proponent shall therefore restore a total of 0.27 acre of non-wetland waters of the U.S., 0.69 acre of wetland waters, and 1.65 acres of streambeds. If on-site restoration is infeasible, mitigation may be completed by providing adequate funding to either a third-party organization, conservation bank or in-lieu fee program for the in-kind creation or restoration at a 3:1 ratio. If mitigation is implemented off-site, mitigation lands should be in the same County as the project site.

Significance After Implementation of Mitigation

Mitigation Measures BIO-8 and BIO-9 would reduce impacts to jurisdictional waters and wetlands to less than significant levels.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

Wildlife movement corridors are defined as sites that connect suitable wildlife habitat sites in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features such as canyon drainages, ridgelines, and sites with vegetation cover provide corridors for wildlife travel.

The east edge of the project site contains a wildlife corridor associated with Twin Oaks Valley Creek. A total of 0.59 acre of riparian habitat consisting of Southern Cottonwood-Willow Riparian Forest will be removed as part of project implementation. These impacts to Southern Cottonwood-Willow Riparian Forest will temporarily narrow this riparian corridor, restricting the use of this area as a movement corridor. Mitigation measures BIO-6 and BIO-9 account for direct impacts to the habitat, as described above. The project proponent intends to revegetate the east portion of the project development area near Twin Oaks Valley Creek with a native riparian hydroseed mix. This revegetation area will be subject to periodic maintenance. Once the riparian vegetation from the seed mix becomes established, it is anticipated that wildlife will be able to use this graded area for movement.

As shown on Figure 10 of Appendix BIO, the existing corridor width associated with Twin Oaks Valley Creek at its widest point is approximately 172 feet. The temporary corridor width at its widest point immediately following the completion of project grading would be reduced to 164 feet. The permanent corridor width at its widest point subsequent to full project development and revegetation of the graded slope would be increased to 208 feet. Project implementation would therefore result in a net increase in the width of the wildlife corridor associated with Twin Oaks Valley Creek. Impacts to wildlife corridors would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The Conservation and Open Space Element of the City's General Plan includes policies related to the protection of biological resources. The applicable policies, as well as the project's consistency with these policies, are presented below:

> **Policy COS-1.1:** Support the protection of biological resources through the establishment, restoration, and conservation of high-quality habitat areas.

Except for the on-site Southern Cotton-Willow Riparian Forest, Diegan Coastal Sage Scrub, and disturbed Diegan Coastal Sage Scrub, a large portion of the project site (1.17 acres) would not be characterized as a high-quality habitat area. Mitigation for impacts to Southern Cottonwood-Willow Riparian Forest, Diegan Coastal Sage Scrub, and Disturbed Diegan Coastal Sage Scrub is identified in Mitigation Measures BIO-6 and BIO-7, which requires a total of 2.33 acres of these vegetation communities be preserved. Mitigation Measure BIO-9 requires impacts to 0.09 acre of non-wetland waters of the U.S., 0.23 acre of wetland waters, and 0.55 acre of streambeds be mitigated at a 3:1 ratio. This can be accomplished through either on-site preservation and restoration, off-site acquisition, in lieu fees, a purchase of credits from an approved mitigation bank, or a combination thereof as approved by the City Planning Manager, USACE, CDFW, and/or RWQCB. Additionally, the City designates the General Plan land use for the project site as Commercial (C). The current project proposes development of only a portion of the project site. Therefore, implementation of the project does not conflict with this policy.

> **Policy COS-1.2:** Ensure that new development, including Capital Improvement Projects, maintain the biotic habitat value of riparian areas, oak woodlands, habitat linkages, and other sensitive habitats.

The project site supports riparian areas and a habitat linkage. On site Southern Cottonwood-Willow Riparian Forest, Diegan Coastal Sage Scrub, and disturbed Diegan Coastal Sage Scrub is considered sensitive; however, mitigation for impacts to habitat is identified in Mitigation Measures BIO-6 and BIO-7, which would require a total of 2.33 acres of these vegetation communities be preserved. Mitigation Measure BIO-9 requires impacts to 0.09 acre of non-wetland waters of the U.S., 0.23 acre of wetland waters, and 0.55 acre of streambeds be mitigated at a 3:1 ratio. This can be accomplished through either on-site preservation and restoration, off-site acquisition, in lieu fees, a purchase of credits from an approved mitigation bank, or a combination thereof as approved by the City Planning Manager, USACE, CDFW, and/or RWQCB. The project would avoid most of Twin Oaks Valley Creek and would mostly avoid the City-identified wildlife corridor in the eastern portion of the project site. The proposed project would therefore maintain most of the biotic habitat value of the on-site riparian area and that of the wildlife corridor on site. Additionally, the City designates the General Plan land use for the project site as Commercial (C). The current project proposes development of only a portion of the project site. Therefore, the project does not conflict with this policy.

> **Policy COS-2.1:** Provide and protect open space areas throughout the City for its recreational, agricultural, safety, and environmental value.

The project site has a history of disturbance. The City designates the General Plan land use for the project site as Commercial (C). The project proposes development of only a portion of the project site. Therefore, implementation of the project does not conflict with this policy.

> **Policy COS-2.2:** Limit, to the extent feasible, the conversion of open space to urban uses and place a high priority on acquiring and preserving open space lands for recreation, habitat protection and enhancement, flood hazard management, water and agricultural resources protection, and overall community benefit.

The project site has a history of disturbance. The City designates the General Plan land use for the project site as Commercial (C). The project proposes development of only a portion of the project site. Most of the riparian habitat associated with Twin Oaks Valley Creek within the study area would be avoided. Mitigation for habitat impacts can be accomplished through either on-site preservation and restoration, off-site acquisition, in lieu fees, a purchase of credits from an approved mitigation bank, or a combination thereof as approved by the City Planning Manager, USACE, CDFW, and/or RWQCB. Therefore, implementation of the project would not conflict with this policy.

> **Policy COS-2.6:** Preserve healthy mature trees where feasible; where removal is necessary, trees shall be replaced at a ratio of 1:1.

A number of mature Fremont cottonwoods, western sycamores, and willow trees are located along Twin Oaks Valley Creek near the east property boundary and along the wetland near the south property boundary. Project implementation may remove several of these trees, as they are located inside of the project development footprint. Any tree removals would be replaced at a ratio of 1:1 as required by the City. Therefore, implementation of the project would not conflict with this policy.

Mitigation Measures

Mitigation for impacts to habitat is identified in Mitigation Measures BIO-6 and BIO-7, which would require a total of 2.33 acres of these vegetation communities be preserved. Mitigation Measure BIO-9 requires impacts to 0.09 acre of non-wetland waters of the U.S., 0.23 acre of wetland waters, and 0.55 acre of streambeds be mitigated at a 3:1 ratio.

Significance After Implementation of Mitigation

Implementation of Mitigation Measures BIO-6, BIO-7, and BIO-9 would reduce impact related to compliance with local General Plan policies to less than significant levels.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

The MHCP is a comprehensive, multi-jurisdictional planning program designed to create, manage, and monitor an ecosystem preserve in northwestern San Diego County intended to protect viable populations of native plant and animal species and their habitat while accommodating economic development and quality of life for San Diego residents. The City of San Marcos began preparing a draft of the City Subarea Plan of the MHCP in December 1999, and although the Subarea Plan has not yet been approved by the USFWS and CDFW, the plan is a component of the adopted MHCP and is currently being used as a guide for open space design and preservation within the City. The MHCP has identified certain areas, known as focused planning areas (FPAs), which have parcel-level preserve goals which would contribute to achieving local and regional conservation. The FPAs are represented by a combination of “hardline” preserves, indicating lands that will be conserved and

managed for biological resources, and "softline" planning areas, within which preserve areas will ultimately be delineated based on further data and planning.

The study area is located within the MHCP, but is not located within an FPA, as illustrated in Figure 2-1 of the Final MHCP Plan. The project area is not within a Biological Core and Linkage Area, as illustrated in Figure 2-3 of the Final MHCP Plan. Descriptions of how impacts to sensitive species and habitats would be reduced to less than significant levels are presented in the mitigation measures above. With the implementation of these mitigation measures, the project would not conflict with the MHCP provisions. Even though the City's Subarea Plan is not yet approved, the project has been designed to comply with the plan's goals and policies.

Mitigation Measures

Mitigation Measures BIO-1 through and BIO-9 are required.

Significance After Implementation of Mitigation

Implementation of Mitigation Measures BIO-1 through BIO-9 would reduce impact related to compliance with the MHCP to less than significant levels.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

5 Cultural Resources

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

CEQA requires a lead agency determine whether a project may have a significant effect on historical resources (Public Resources Code [PRC], Section 21084.1) and tribal cultural resources (PRC Section 21074 [a][1][A]-[B]). Tribal cultural resources are discussed in Section 18, *Tribal Cultural Resources*, of this document.

A historical resource is a resource listed in, or determined to be eligible for listing, in the California Register of Historical Resources (CRHR), a resource included in a local register of historical resources, or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (CEQA Guidelines, Section 15064.5[a][1-3]).

A resource shall be considered historically significant if it:

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. Is embodied by the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history

In addition, if it can be demonstrated that a project would cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made 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]).

PRC Section 21083.2(g) defines a unique archaeological resource as an archaeological 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:

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

Rincon Consultants, Inc. completed a Cultural Resources Assessment in August 2020. The report identifies four previously recorded cultural resources within a half-mile radius of the project site, none of which are within the project site. The cultural resources consist of one prehistoric lithic scatter, one historic building, one historic road alignment, and one multi-component site comprised of an historic-era residential structure with associated debris and a prehistoric lithic scatter with one possible human bone fragment. The full Cultural Resources Assessment is available as Appendix CUL of this document.

a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

The project site is vacant and lacks historical resources as defined in Section 15064.5 of the CEQA Guidelines. Therefore, there would be no impact to a historical resource.

NO IMPACT

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Archaeological resources are not known to be present on-site. However, two prehistoric resources are located approximately 0.5-mile from the project site and approximately 1,000 feet from Twin Oaks Valley Creek, which abuts the project site to the east. Twin Oaks Valley Creek would have served as a freshwater source and provided resources favorable to human occupation, as evidenced by other nearby prehistoric sites located adjacent to the creek. Additionally, the alluvial soils present within the project site increase the likelihood of encountering buried archaeological deposits during project related ground disturbance (Rincon 2020b). Furthermore, because the site is vacant and has not been developed, excavation and ground disturbing activities during construction have the potential to directly or indirectly disturb subsurface archaeological resources. Therefore, to avoid potential impacts to archaeological resources if such resources are discovered during construction and in accordance with the recommendations found in the Cultural Resources Assessment, Mitigation Measures CR-1 through CR-3 would be required.

Mitigation Measures

CR-1 Pre-excavation Agreement

Prior to the issuance of a Grading Permit, or ground disturbing activities, the Applicant/Owner shall enter into a Tribal Cultural Resources Treatment and Repatriation Agreement (Pre-Excavation Agreement) with a Traditionally and Culturally Affiliated Native American Tribe (TCA Tribe), identified in consultation with the City. The purpose of the Pre-Excavation Agreement shall be to formalize protocols and procedures between the Applicant/Owner and the TCA Tribe for the protection, treatment, and repatriation of Native American human remains, funerary objects, cultural and/or religious landscapes, ceremonial items, traditional gathering areas, and other tribal

cultural resources. Such resources may be located within and/or discovered during ground disturbing and/or construction activities for the proposed project, including any additional culturally appropriate archaeological studies, excavations, geotechnical investigations, grading, preparation for wet and dry infrastructure, and other ground disturbing activities. Any project-specific Monitoring Plans and/or excavation plans prepared by the project archaeologist shall include the TCA Tribe requirements for protocols and protection of tribal cultural resources that were agreed to during the tribal consultation.

The landowner shall relinquish ownership of all non-burial related tribal cultural resources collected during construction monitoring and from any previous archaeological studies or excavations on the project site to the TCA Tribe for proper treatment and disposition per the Pre-Excavation Agreement, unless ordered to do otherwise by responsible agency or court of competent jurisdiction. The requirement and timing of such release of ownership, and the recipient thereof, shall be reflected in the Pre-Excavation Agreement. If the TCA Tribe does not accept the return of the cultural resources, then the cultural resources will be subject to curation.

CR-2 Construction Monitoring

Prior to the issuance of a Grading Permit or ground disturbing activities, the Applicant/Owner or Grading Contractor shall provide written documentation (either as signed letters, contracts, or emails) to the City's Planning Division stating that a Qualified Archaeologist and Traditionally and Culturally Affiliated Native American monitor (TCA Native American monitor) have been retained at the Applicant/Owner or Grading Contractor's expense to implement the construction monitoring program, as described in the Pre-Excavation Agreement.

The Qualified Archaeologist and TCA Native American monitor shall be invited to attend all applicable pre-construction meetings with the General Contractor and/or associated subcontractors to present the construction monitoring program. The Qualified Archaeologist and TCA Native American monitor shall be present on site during grubbing, grading, trenching, and/or other ground disturbing activities that occur in areas of native soil or other permeable natural surfaces that have the potential to unearth any evidence of potential archaeological resources or tribal cultural resources. In areas of artificial paving, the Qualified Archaeologist and TCA Native American monitor shall be present on site during grubbing, grading, trenching, and/or other ground disturbing activities that have the potential to disturb more than six inches below the original pre-project ground surface to identify any evidence of potential archaeological or tribal cultural resources. No monitoring of fill material, existing or imported, will be required if the General Contractor or developer can provide documentation to the satisfaction of the City that all fill materials being utilized at the site are either: 1) from existing commercial (previously permitted) sources of materials; or 2) are from private or other non-commercial sources that have been determined to be absent of tribal cultural resources by the Qualified Archaeologist and TCA Native American monitor.

The Qualified Archaeologist and TCA Native American monitor shall maintain ongoing collaborative coordination with one another during all ground disturbing activities. The requirement for the construction monitoring program shall be noted on all applicable construction documents, including demolition plans, grading plans, etc. The Applicant/Owner or Grading Contractor shall provide written notice to the Planning Division and the TCA Tribe, preferably through e-mail, of the start and end of all ground disturbing activities.

Prior to the release of any grading bonds, or prior to the issuance of any project Certificate of Occupancy, an archaeological monitoring report, which describes the results, analysis, and conclusions of the construction monitoring shall be submitted by the Qualified Archaeologist, along

with any TCA Native American monitor's notes and comments received by the Qualified Archaeologist, to the Planning Division Manager for approval. Once approved, a final copy of the archaeological monitoring report shall be retained in a confidential City project file and may be released, as a formal condition of Assembly Bill (AB) 52 consultation, to San Luis Rey Band of Mission Indians, the Rincon Band of Luiseño Indians, and the Pechanga Band of Luiseño Indians or any parties involved in the project specific monitoring or consultation process. A final copy of the report, with all confidential site records and appendices, will also be submitted to the South Coastal Information Center after approval by the City.

CR-3 Unanticipated Discovery Procedures

Both the Qualified Archaeologist and the TCA Native American monitor may temporarily halt or divert ground disturbing activities if potential archaeological resources or tribal cultural resources are discovered during construction activities. Ground disturbing activities shall be temporarily directed away from the area of discovery for a reasonable amount of time to allow a determination of the resource's potential significance. Isolates and clearly non-significant archaeological resources (as determined by the Qualified Archaeologist, in consultation with the TCA Native American monitor) will be minimally documented in the field. All unearthed archaeological resources or tribal cultural resources will be collected, temporarily stored in a secure location (or as otherwise agreed upon by the Qualified Archaeologist and the TCA Tribe), and repatriated according to the terms of the Pre-Excavation Agreement, unless ordered to do otherwise by responsible agency or court of competent jurisdiction.

If a determination is made that the archaeological resources or tribal cultural resources are considered potentially significant by the Qualified Archaeologist, the TCA Tribe, and the TCA Native American monitor, then the City and the TCA Tribe shall determine, in consultation with the Applicant/Owner and the Qualified Archaeologist, the culturally appropriate treatment of those resources.

If the Qualified Archaeologist, the TCA Tribe, and the TCA Native American monitor cannot agree on the significance or mitigation for such resources, these issues will be presented to the Planning Division Manager for decision. The Planning Division Manager shall make a determination based upon the provisions of CEQA and California Public Resources Code Section 21083.2(b) with respect to archaeological resources and California Public Resources Section 21704 and 21084.3 with respect to tribal cultural resources, and shall take into account the religious beliefs, cultural beliefs, customs, and practices of the TCA Tribe.

All sacred sites, significant tribal cultural resources, and/or unique archaeological resources encountered within the project area shall be avoided and preserved as the preferred mitigation. If avoidance of the resource is determined to be infeasible by the City as the Lead Agency, then the City shall require additional culturally appropriate mitigation to address the negative impact to the resource, such as, but not limited to, the funding of an ethnographic study and/or a data recovery plan, as determined by the City in consultation with the Qualified Archaeologist and the TCA Tribe. The TCA Tribe shall be notified and consulted regarding the determination and implementation of culturally appropriate mitigation and the drafting and finalization of any ethnographic study and/or data recovery plan, and/or other culturally appropriate mitigation. Any archaeological isolates or other cultural materials that cannot be avoided or preserved in place as the preferred mitigation shall be temporarily stored in a secure location on site (or as otherwise agreed upon by the Qualified Archaeologist and TCA Tribe), and repatriated according to the terms of the Pre-Excavation Agreement, unless ordered to do otherwise by responsible agency or court of competent

jurisdiction. The removal of any artifacts from the project site will be inventoried with oversight by the TCA Native American monitor.

If a data recovery plan is authorized as indicated above and the TCA Tribe does not object, then an adequate artifact sample to address research avenues previously identified for sites in the area will be collected using professional archaeological collection methods. If the Qualified Archaeologist collects such resources, the TCA Native American monitor must be present during any testing or cataloging of those resources. Moreover, if the Qualified Archaeologist does not collect the cultural resources that are unearthed during the ground disturbing activities, the TCA Native American monitor may, at their discretion, collect said resources for later reburial or storage at a local curation facility, as described in the Pre-Excavation Agreement.

In the event that curation of archaeological resources or tribal cultural resources is required by a superseding regulatory agency, curation shall be conducted by an approved local facility within San Diego County and the curation shall be guided by California State Historical Resources Commission's Guidelines for the Curation of Archaeological Collections. The City shall provide the Applicant/Owner final curation language and guidance on the project grading plans prior to issuance of the grading permit, if applicable, during project construction. The Applicant/Owner shall be responsible for all repatriation and curation costs and provide to the City written documentation from the TCA Tribe or the curation facility, whichever is most applicable, that the repatriation and/or curation have been completed.

Significance After Implementation of Mitigation

Implementation of Mitigation Measures CR-1 through CR-3 would reduce impacts to unknown archaeological resources to less than significant levels.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

c. Would the project disturb any human remains, including those interred outside of formal cemeteries?

The discovery of human remains is always a possibility during ground-disturbing activities as specified by California Health and Safety Code Section 7050.5, if human remains, or remains that are potentially human, are found on the project site during ground disturbing activities or during archaeological work, the person responsible for the excavation, or his or her authorized representative, shall immediately notify the San Diego County Medical Examiner's Office by telephone. No further excavation or disturbance of the discovery or any nearby area reasonably suspected to overlie adjacent remains (as determined by the Qualified Archaeologist and/or the TCA Native American monitor) shall occur until the Medical Examiner has made the necessary findings as to origin and disposition pursuant to Public Resources Code 5097.98.

If such a discovery occurs, a temporary construction exclusion zone shall be established surrounding the area of the discovery so that the area would be protected (as determined by the Qualified Archaeologist and/or the TCA Native American monitor), and consultation and treatment could occur as prescribed by law. As further defined by State law, the Medical Examiner will determine within two working days of being notified if the remains are subject to his or her authority. If the Medical Examiner recognizes the remains to be Native American, and not under his or her jurisdiction, then he or she shall contact the Native American Heritage Commission by telephone within 24 hours. The Native American Heritage Commission will make a determination as to the

Most Likely Descendent, who shall be afforded 48 hours from the time access is granted to the discovery site to make recommendations regarding culturally appropriate treatment.

If suspected Native American remains are discovered, the remains shall be kept in situ (in place) until after the Medical Examiner makes its determination and notifications, and until after the Most Likely Descendent is identified, at which time the archaeological examination of the remains shall only occur on site in the presence of the Most Likely Descendent. The specific locations of Native American burials and reburials will be proprietary and not disclosed to the general public. According to California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100), and disturbance of Native American cemeteries is a felony (Section 7052). In the event that the Applicant/Owner and the Most Likely Descendant are in disagreement regarding the disposition of the remains, State law will apply, and the mediation process will occur with the NAHC. In the event that mediation is not successful, the landowner shall rebury the remains at a location free from future disturbance (see Public Resources Code Section 5097.98(e) and 5097.94(k)).

With adherence to existing regulations regarding the treatment of human remains, the impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

6 Energy

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

Energy Setting

Energy use relates directly to environmental quality because it can adversely affect air quality and can generate GHG emissions that contribute to climate change. Fossil fuels are burned to create electricity, 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, including miles traveled by these modes.

Energy use is typically quantified using the British Thermal Units (BTU). The BTU is the amount of energy that is required to raise the temperature of one pound of water by 1 degree Fahrenheit. As points of reference, the approximate amount of energy contained in a cubic foot of natural gas, a kilowatt hour (kWh) of electricity, and a gallon of gasoline are 1,000 BTU, 3,400 BTU, and 123,000 BTU, respectively. Natural gas usage is expressed in U.S. therms with one U.S. therm equal to 100,000 Btu.

Electricity and Natural Gas

In 2019, California used approximately 277,704 gigawatt-hours (GWh) of electricity, 31.7 percent of which was from renewable resources (California Energy Commission [CEC] 2020a and 2020b). California also consumed approximately 13,158 million U.S. therms of natural gas in 2019 (CEC 2020a). The project would be supplied electricity by San Diego Gas and Electric (SDG&E).

Table 7 and Table 8 show electricity and natural gas consumption, respectively, by sector and in total for SDG&E. In 2019, SDG&E supplied approximately 6.4 percent of the total electricity and approximately 4.1 percent of the total natural gas used in California (CEC 2020a).

Table 7 Electricity Consumption in the SDG&E Service Area in 2019

Agriculture and Water Pump	Commercial Building	Commercial Other	Industry	Mining and Construction	Residential	Streetlight	Total Usage
325.1	8,023.1	1,792.6	1,235,6	394.5	5,859.6	89.9	17,720.8

Notes: All usage expressed in gigawatt-hours

Source: CEC 2020a

Table 8 Natural Gas Consumption in SDG&E Service Area in 2018

Agriculture and Water Pump	Commercial Building	Commercial Other	Industry	Mining and Construction	Residential	Total Usage
4.9	175.9	24.2	21.3	3.8	303.7	533.9

Notes: All usage expressed in million U.S. therms.

Source: CEC 2020a

Petroleum

In 2018, approximately 40 percent of the state's energy consumption was used for transportation activities (United States Energy Information Administration 2020). Californians presently consume over 17 billion gallons of motor vehicle fuels per year (CEC 2020c). Though California's population and economy are expected to grow, gasoline demand is projected to decline from roughly 15.6 billion gallons in 2017 to between 12.1 billion and 12.6 billion gallons in 2030 (a 19 percent to 22 percent reduction) in response to both increasing vehicle electrification and higher fuel economy for new gasoline vehicles (CEC 2018a).

a. 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?

Construction Energy Demand

During project construction, energy would be consumed in the form of petroleum-based fuels used to power off-road construction vehicles and equipment on the project site, construction worker travel to and from the project site, and vehicles used to deliver materials to the site. The project would require site preparation and grading, including hauling material off-site, pavement and asphalt installation, building construction, architectural coating, and 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. Table 9 presents the estimated construction phase energy consumption, indicating that construction equipment, vendor trips, and worker trips would consume over 16,000 gallons of fuel over the project construction period.

Table 9 Estimated Fuel Consumption during Construction

Fuel Type	Gallons of Fuel	MMBTU[4]
Diesel Fuel (Construction Equipment)[1]	11,797	1,503
Diesel Fuel (Hauling & Vendor Trips)[2]	4,188	534
Other Petroleum Fuel (Worker Trips)[3]	264	34
Total	**16,249**	**2,071**

[1] Fuel demand rate for construction equipment is derived from the total hours of operation, the equipment's horsepower, the equipment's load factor, and the equipment's fuel usage per horsepower per hour of operation, which are provided in CalEEMod outputs (see Appendix AQ/GHG), and from compression-ignition engine brake-specific fuel consumptions factors for engines between 0 to 100 horsepower and greater than 100 horsepower (USEPA 2018). Fuel consumed for all construction equipment is assumed to be diesel fuel.

[2] Fuel demand rate for hauling and vendor trips (cut material imports) is derived from hauling and vendor trip number, hauling and vendor trip length, and hauling and vendor vehicle class from "Trips and VMT" Table contained in Section 3.0, *Construction Detail*, of the CalEEMod results (see Appendix AQ/GHG). The fuel economy for hauling and vendor trip vehicles is derived from the United States Department of Transportation (U.S. DOT 2018). Fuel consumed for all hauling trucks is assumed to be diesel fuel.

[3] The fuel economy for worker trip vehicles is derived from the U.S. DOT National Transportation Statistics (24 mpg) (U.S. DOT 2018). Fuel consumed for all worker trips is assumed to be gasoline fuel.

[4] CaRFG CA-GREET 2.0 fuel specification of 109,786 BTU/gallon used to identify conversion rate for fuel energy consumption for worker trips specified above (CARB 2015). Low-sulfur Diesel CA-GREET 2.0 fuel specification of 127,464 BTU/gallon used to identify conversion rate for fuel energy consumption for construction equipment specified above (Schremp 2017).

Source: Appendix AQ/GHG

Notes: Totals may not add up due to rounding.

The construction energy estimates represent a conservative estimate because the construction equipment used in each phase of construction was assumed to be operating every day of construction. Construction equipment would be maintained to applicable standards, and construction activity and associated fuel consumption and energy use would be temporary and typical for construction sites. It is also reasonable to assume that contractors would avoid wasteful, inefficient, and unnecessary fuel consumption during construction to reduce construction costs. 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.

Operational Energy Demand

Operation of the project would create energy demand from greater electricity consumption at a site with no previous development or uses. Electricity would be used for heating and cooling systems, lighting, appliances, water use, and the overall operation of the project buildings. The project would not use natural gas.

Per the CalEEMod results (see Appendix AQ/GHG), operation of the proposed project would consume approximately 239 MWh (or 0.2 GWh) of electricity per year. The project would be served by SDG&E, which provided approximately 17,721 GWh of electricity in 2019. The project would consume less than 0.00002 percent of SDG&E's annual electricity demand. SDG&E would have sufficient supplies for the project and development of the project would not place a significant demand on the electrical supply.

The project would also comply with all standards set in California Building Code (CBC) Title 24, which would minimize the wasteful, inefficient, or unnecessary consumption of energy resources during

operation. California's Green Building Standards Code (CALGreen; California Code of Regulations, Title 24, Part 11) requires implementation of energy efficient light fixtures and building materials into the design of new construction projects. The 2019 Building Energy Efficiency Standards (CBC Title 24, Part 6) requires newly constructed buildings to meet energy performance standards set by the CEC. As the name implies, these standards are specifically crafted for new buildings to result in energy efficient performance so that the buildings do not result in wasteful, inefficient, or unnecessary consumption of energy. The standards are updated every 3 years and each iteration is more energy efficient than the previous standards. For example, according to the CEC, non-residential buildings built to 2019 standards would use about 30 percent less energy compared to 2016 standards (CEC 2018b).

Furthermore, the project would further reduce its use of nonrenewable energy resources as the electricity generated by renewable resources provided by SDG&E continues to increase to comply with State requirements through Senate Bill (SB) 100 (SB 100), which 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. As discussed in Section 8, *Greenhouse Gas Emissions*, the project would implement applicable GHG reduction measures from the City of San Marcos Climate Action Plan (CAP), including providing electric vehicle charging stations at three parking spaces (reduces gasoline fuel use), and installing approximately 45 kW of solar panels on the rooftop of the car wash and its attached canopy structure which is anticipated to reduce electricity demand by approximately 76,500 kWh per year.

Gasoline and diesel fuel consumption would also be attributed to the project site from vehicle trips generated by the project. The estimated number of average daily trips associated with the project from CalEEMod is used to determine the energy consumption associated with fuel use from the operation of the project. Most fuel consumption would be from motor vehicles traveling to and from the project site. Table 10 shows the estimated total annual fuel consumption attributed to the proposed project using the estimated vehicle miles travelled (VMT) with the assumed vehicle fleet mix obtained from CalEEMod (Appendix AQ/GHG). Project fuel use would be typical of any similarly sized convenience store with fuel pumps and an automated car wash. Therefore, transportation energy consumption listed in Table 10 would not be wasteful or unnecessary energy consumption.

Table 10 Estimated Project Annual Transportation Energy Consumption

Vehicle Type[1]	Percent of Vehicle Trips[2]	Annual Vehicle Miles Traveled[3]	Average Fuel Economy (miles/gallon)[4]	Total Annual Fuel Consumption (gallons)	Total Fuel Consumption (MBTU)[5]
Passenger Cars	59.9	887,814	24	36,992	4,061
Light/Medium Trucks	62.8	486,661	17.4	27,969	3,071
Heavy Trucks/Other	7.2	106,900	7.4	14,446	1,841
Motorcycles	0.1	1,664	43.9	38	4
Total	**100.0**	1,483,039	–	79,445	8,977

[1] Vehicle classes provided in CalEEMod do not correspond exactly to vehicle classes in DOT fuel consumption data, except for motorcycles. Therefore, it was assumed that passenger cars correspond to the light-duty, short-base vehicle class, light/medium trucks correspond to the light-duty long-base vehicle class, and heavy trucks/other correspond to the single unit, 2-axle 6-tire or more class.

[2] Percent of vehicle trips from Table 4.4 "Fleet Mix" in Air Quality and Greenhouse Gas Impact Study (Appendix AQ/GHG).

[3] Mitigated annual VMT found in Table 4.2 "Trip Summary Information" in Air Quality and Greenhouse Gas Impact Study (Appendix AQ/GHG).

[4] Average Fuel Economy: U.S. Department of Energy, 2019.

[5] CaRFG fuel specification of 109,786 BTU/gallon used to identify conversion rate for fuel energy consumption for passenger cars and motorcycles (CARB 2015). Low-sulfur Diesel CA-GREET 2.0 fuel specification of 127,464 BTU/gallon used to identify conversion rate for fuel energy consumption for light/medium trucks and heavy trucks/other (Shremp 2017).

Notes: Totals may not add up due to rounding.

In conclusion, construction of the project would be temporary and typical of similar projects and would not result in wasteful use energy. Furthermore, the project would meet or exceed all applicable prescriptive energy efficiency measures from 2019 Title 24 Building Energy Efficiency Standards. In addition, the project is proposing to offset its energy demands with the installation of solar panels. Therefore, project operation would not result in wasteful or unnecessary energy consumption. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

The City of San Marcos adopted an updated CAP in December 2020. The City's updated CAP contains comprehensive implementation actions intended to promote renewable energy and energy efficiency. As discussed furthermore in Section 8, *Greenhouse Gas Emissions*, the proposed project would be consistent with applicable policies from the City's CAP. Furthermore, the project would include solar photovoltaic system with a rated capacity of approximately 45 kW, which is roughly three times the size required to be consistent with the CAP checklist (13.9 kW). Therefore, the proposed project would have no impact on a state or local renewable energy or energy efficiency plan.

NO IMPACT

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7 Geology and Soils

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	■	☐
2. Strong seismic ground shaking?	☐	☐	■	☐
3. Seismic-related ground failure, including liquefaction?	☐	■	☐	☐
4. Landslides?	☐	☐	☐	■
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	■	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	■	☐	☐
d. 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?	☐	■	☐	☐
e. 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?	☐	☐	☐	■
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	■	☐	☐

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

The project site is not located in the Alquist-Priolo Earthquake Fault Zone (DOC 2020b). According to the City's General Plan, no active or potentially active faults traverse San Marcos (City of San Marcos 2013). Therefore, the risk associated with exposing people or structures to ground rupture of a known earthquake fault is low. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

a.2. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

San Marcos has experienced minor to moderate ground shaking events historically. San Marcos has a lower potential for strong ground shaking than other areas in Southern California. General background seismicity is considered low in San Marcos with earthquake activity concentrated on faults to the north (Newport-Inglewood and Elsinore Hills), east (Elsinore and San Jacinto), and offshore to the west (Thirtymile Bank). The Rose Canyon Fault is considered the greatest potential threat to San Marcos. This fault and the other Southern California faults are potential generators of ground shaking in the project area. However, the project site is not subject to unusual levels of ground shaking, and the project would not involve uses, such as mining or fracking that are known to cause or exacerbate ground shaking.

To reduce geologic and seismic impacts, the City regulates development through the requirements of the CBC. 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. The earthquake design requirements of the CBC consider the occupancy category of the structure, site class, soil classifications, and various seismic coefficients. The CBC provides standards for various aspects of construction, including but not limited to excavation, grading, earthwork, construction, preparation of the site prior to fill placement, specification of fill materials, 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. In accordance with California law, project design and construction would be required to comply with provisions of the CBC. Because the project would comply with the CBC and because the project would not exacerbate existing ground shaking hazards, impacts related to seismically induced ground shaking would be less than significant.

LESS THAN SIGNIFICANT IMPACT

a.3. 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?

Liquefaction is a phenomenon in which saturated silty-to-cohesionless soil above the groundwater table are subject to a temporary loss of strength due to the buildup of excess pore pressure during cyclic stresses induced by an earthquake. These soils may acquire a high degree of mobility and lead to structurally damaging deformations. Liquefaction begins below the water table, but after liquefaction has developed, the groundwater table rises and causes the overlying soil to mobilize. Liquefaction typically occurs in areas where groundwater is less than 30 feet from the surface and where the soils are composed of poorly consolidated fine- to medium-grained sand. In addition to the necessary soil conditions, the ground acceleration and duration of the earthquake must also be of a sufficient level to initiate liquefaction.

According to the California Geologic Survey (CGS) Earthquake Zones of Required Investigation Map, the project site is not located in an area susceptible to liquefaction (DOC 2020b), and classified as an area of Zero Susceptibility to liquefaction according to the San Marcos General Plan (2013). However, the Geotechnical Report prepared for the project concluded that due to the presence of alluvial deposits, the potential for liquefaction at the project site is high (AGS Inc. 2020; Appendix GEO). The Geotechnical Report concluded that with the incorporation of the recommendations presented in the report, the project is considered feasible.

Therefore, to avoid potential impacts due to liquefaction during construction, and in accordance with the recommendations found in the Geotechnical Report, Mitigation Measures GEO-1 through GEO-8 would be required.

Mitigation Measures

GEO-1 Site Preparation

During the site preparation phase of construction, the contractor shall remove existing structures, utility lines, asphalt, concrete, and other deleterious debris from areas to be graded. Clearing and grubbing shall extend to the outside of the proposed excavation and fill areas. Debris and unsuitable material generated during clearing and grubbing shall be removed from areas to be graded and disposed of at a legal dumpsite away from the project area. Abandoned utilities shall be removed and/or backfilled with slurry pursuant to local regulations.

GEO-2 Unsuitable Soil Removals and Ground Improvement

Densification of loose soils to an approximate depth of 16 feet shall be required under settlement sensitive structures and improvements such as retaining walls. Due to the presence of groundwater at approximate depth of 6 feet, removal and recompaction of loose soils is not considered feasible. Ground improvement construction techniques can be used to replace, densify, or solidify in-situ soils to increase liquefaction resistance, reduce static compressibility, and increase strength. Common ground improvement techniques that are considered potentially technically suitable for this site include (listed in order of lowest to highest relative cost), surcharge loading, vibro-replacement stone columns and compaction grouting. Grading plans shall utilize one or more of the following ground improvement techniques:

- **Surcharge loading.** Surcharge loading may be used to densify soils in areas where other densification techniques are not applied. Surcharge loads are usually applied by placing an

embankment fill on the soft soil area. The underlying soft soils are monitored with settlement monuments to evaluate the time required to achieve primary consolidation settlement.

- **Vibro-replacement stone columns.** Vibro-replacement stone columns is a densification and reinforcement technique wherein a vibratory probe ("vibroflot") is advanced vertically into the ground. As the probe advances, it displaces and densifies the soil laterally. After the probe has reached its intended depth, gravel is introduced from the probe tip or from the ground surface as the probe is withdrawn. The probe is reinserted in 1- or 2-foot (0.3- to 0.6-meter) increments as it is withdrawn to further compact the gravel and surrounding soil. Vibro methods are most commonly used for liquefaction mitigation in sandy to silty material. In addition to the densification of the native soil, the stone columns can act as drains to assist in relieving pore water pressure buildup during earthquake shaking.
- **Compaction Grouting.** Compaction grouting is a densification and reinforcement technique that consists of injecting low slump mortar into soil under relatively low pressure. The grout expands in a bulb against the surrounding soil causing densification and displacement of the soil around the grout bulbs. The grout tube is advanced into the ground by drilling and/or vibrating. The probe is raised incrementally, and successive, adjacent grout bulbs are constructed, resulting in a compaction grout column. A triangular or square array of columns results in a composite mass of improved ground composed of the grout columns and densified native soil between the columns. The strength of the overall soil mass increases due to the increased density of the soil between the grout bulbs and the reinforcement of the soil mass by the grout columns. Compaction grouting is applicable to a wide range of soils including sands, silts, and clays.

  Compaction grouting can be performed with low overhead equipment that could operate within the height constraints at the site. Compaction grouting does not involve vibrations, and thus typically does not result in settlement of adjacent ground. Near the ground surface, compaction grouting can result in ground heave. However, this is typically controlled by active survey monitoring during the grouting process. Ground heave threshold levels are set beforehand (depending upon the sensitivity of existing improvements) that trigger cessation of the grouting if they are reached.

GEO-3 Slope Stability and Remediation

Grading plans shall indicate cut and fill slopes designed at 2:1 slope ratios. During grading, geologic inspection shall be conducted by a qualified geological consultant to observe if soil and geologic conditions differ significantly from those anticipated. Should field conditions dictate, modifications to the recommendations presented herein may be necessary and should be based upon conditions exposed in the field during grading activities.

GEO-4 Excavation and Temporary Cut Slopes

All excavations shall be shored or laid back in accordance with applicable Cal-OSHA standards. Any temporary excavation greater than 5 feet in depth shall be laid back at the appropriate slope ratio. Excavations shall not become saturated or allowed to dry out. Surcharge loads shall not be permitted within a distance equal to the height of the excavation from the top of the excavation. The top of the excavation shall be a minimum of 10 feet from the edge of existing improvements. Excavations steeper than those recommended or closer than 10 feet from an existing surface improvement shall be temporarily shored in accordance with applicable OSHA codes and regulations.

GEO-5 Dewatering

Dewatering may be necessary to accomplish deeper excavations for utilities, tanks, and foundation elements. Dewatering can create subsidence outside of the area of work and create distress to adjacent improvements. Adjacent improvements shall be inventoried prior to dewatering and observed periodically to determine if the dewatering is creating settlement outside of the work area. Discharge of groundwater generated during the dewatering process shall require a discharge permit in accordance with National Pollutant Discharge Elimination System (NPDES) permits. Accordingly, water testing and possible treatment of the discharge water shall be necessary.

GEO-6 Earthwork and Excavation

- **Compaction standards.** Fill and processed natural ground shall be compacted to a minimum relative compaction of 90 percent as determined by ASTM Test Method: D 1557. Compaction shall be achieved at slightly above the optimum moisture content.
- **Mixing and Moisture Control.** To prevent layering of different soil types and/or different moisture contents, mixing and moisture control of materials may be necessary. The preparation of the earth materials through mixing and moisture control shall be accomplished prior to and as part of the compaction of each fill lift. Water trucks or other water delivery means may be necessary for moisture control. Discing may be required when either excessively dry or wet materials are encountered.
- **Oversize Rock.** Oversized rock material (i.e., rock fragments greater than 8 inches) may be produced during grading. Provided that the procedure is acceptable to the owner and governing agency, this rock shall be incorporated into the compacted fill section to within 3 feet of finish grade and to 2 feet below the deepest utility and buried fuel storage tanks. Variances to the above rock hold-down shall be approved by the owner, geotechnical consultant, and governing agencies.
- **Utility Trench Excavation and Backfill.** All utility trenches shall be shored or laid back in accordance with applicable Cal/OSHA standards. Excavations in bedrock areas should be made in consideration of underlying geologic structure. The geotechnical consultant shall be consulted on these issues during construction.

  Mainline and lateral utility trench backfill shall be compacted to at least 90 percent of maximum dry density as determined by ASTM D 1557. On-site soils not suitable for use as bedding material will be suitable for use in backfill, provided oversized materials are removed. No surcharge loads shall be imposed above excavations, including spoil piles, lumber, concrete trucks or other construction materials and equipment. Drainage above excavations shall be directed away from the banks. Care shall be taken to avoid saturation of the soils.

  Compaction shall be accomplished by mechanical means. Jetting of native soils shall not be acceptable. To reduce moisture penetration beneath the slab-on-grade areas, shallow utility trenches shall be backfilled with lean concrete or concrete slurry where they intercept the foundation perimeter. As an alternative, such excavations shall be backfilled with native soils, moisture-conditioned to over optimum, and compacted to a minimum of 90 percent relative compaction.

GEO-7 Structural Design

Structures and retaining walls shall be supported by conventional shallow foundation systems placed on densified and/or reinforced soil. It is anticipated that the on-site soils will generally vary

from "Very Low" to "Medium" in expansion potential when tested in general accordance with ASTM D 4829. The following design recommendation shall be implemented.

- **Foundational Design.** Gas station structures can be supported on conventional shallow foundation systems. The design of foundation systems should be based on as-graded conditions as determined after grading completion. The following values may be used in preliminary foundation design:

  Allowable Bearing: 2,500 psf

  Lateral Bearing: 300 lbs./sq.ft. at a depth of 12 inches plus 150 lbs./sq.ft. for each additional 12 inches embedment to a maximum of 2500 lbs./sq.ft.

  Sliding Coefficient: 0.35

  Settlement: Total = ¾ inch

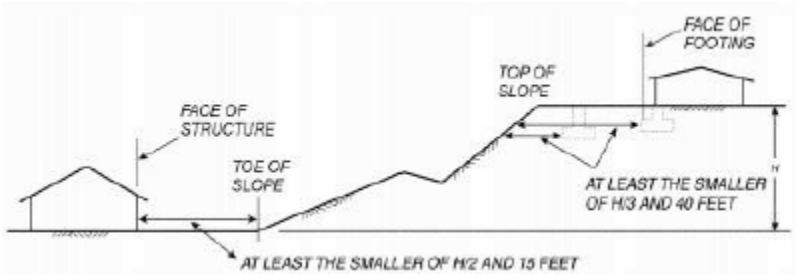
  Differential: 3/8 inch in 20 feet

  The above values may be increased as allowed by Code to resist transient loads such as wind or seismic. Building code and structural design considerations may govern. Depth and reinforcement requirements shall be evaluated by a qualified engineer.

- **Conventional Slab.** Based on the lot categories and preliminary expansion potential of “Very Low” to “Medium” for the on-site soil conditions and information supplied by the CBC 2019, conventional foundation systems should be designed pursuant to the following recommendations.

	Car Wash	Convenience Store
Expansion Potential	Low to Medium	Low to Medium
Embedment (One-story)	22 inches	18 inches
Footing Width	12 inches	12 inches
Footing Reinforcement	No. 4 rebar, two (2) on top and two (2) on bottom or No. 5 rebar one (1) on top and one (1) on bottom	
Slab Thickness	10 inches (actual)	4 inches (actual)
Slab Reinforcement	No. 4 rebar spaced 12 inches on center, each way	No. 3 rebar spaced 18 inches on center, each way or 10x10 welded wire mesh
Slab Underlayment	Stego Wrap Vapor Barrier (or equivalent) (15 mil) in moisture sensitive areas	
Slab Subgrade Moisture	Minimum of 110% of optimum moisture 24 hours prior to placing concrete	
Footing Embedment Next to Swales and Slopes	If exterior footings adjacent to drainage swales are to exist within 5 feet horizontally of the swale, the footing should be embedded sufficiently to assure embedment below the swale bottom is maintained. Footings adjacent to slopes should be embedded such that a least 7 feet are provided horizontally from edge of the footing to the face of the slope.	
Isolated Spread Footings	Isolated spread footings should be embedded a minimum of 18 inches below lowest adjacent finish grade and should at least 24 inches wide. A grade beam should also be constructed for interior and exterior spread footings and should be tied into the structure in two orthogonal directions, footing dimensions and reinforcement should be similar to the aforementioned continuous footing recommendations. Final depth, width and reinforcement should be determined by the structural engineer.	

- **Deepened Footings and Structural Setbacks.** Where foundations for structures are to exist in proximity to slopes, the footings shall be embedded to satisfy the requirements presented in figure below (Figure 8.1.3 of the Geotechnical Report).



- **Miscellaneous Foundation Design.** Soils from the footing excavations shall not be placed in slab-on-grade areas unless properly compacted and tested. The excavations shall be cleaned of all loose/sloughed materials and be neatly trimmed at the time of concrete placement.

- **Earth Pressures for Design of Buried Structures.** Active, passive, and at rest earth Rankine earth pressures for artificial compacted fills, which shall be utilized for design of buried structures with level and 2:1 backfill, are as follows:

Level Backfill	Rankine Coefficients	Equivalent Fluid Pressure (psf/lin.ft.)
Coefficient of Active Pressure	$K_a = 0.32$	38
Coefficient of Passive Pressure	$K_p = 3.12$	375
Coefficient of At Rest Pressure	$K_o = 0.48$	58
2:1 Backfill		
Coefficient of Active Pressure	$K_a = 0.50$	60
Coefficient of Passive Pressure (Descending)	$K_p = 1.18$	142
Coefficient of At Rest Pressure	$K_o = 0.88$	105

For rigid restrained walls, "At-Rest" values shall be used. For cantilever retaining walls, which can undergo minor rotations, active pressures shall be used.

The above values may be increased by 1/3 as allowed by Code to resist transient loads. Building Code and structural design considerations may govern.

In addition to the above static pressures, unrestrained retaining walls shall be designed to resist seismic loading as required by the 2019 CBC. The seismic load can be modeled as a thrust load applied at a point 0.6H above the base of the wall, where H is equal to the height of the wall. The seismic load (in pounds per lineal foot of wall) is represented by the following equation:

$$Pe = \tfrac{3}{8} * \gamma * H2 * k_h$$

Where: Pe = Seismic thrust load

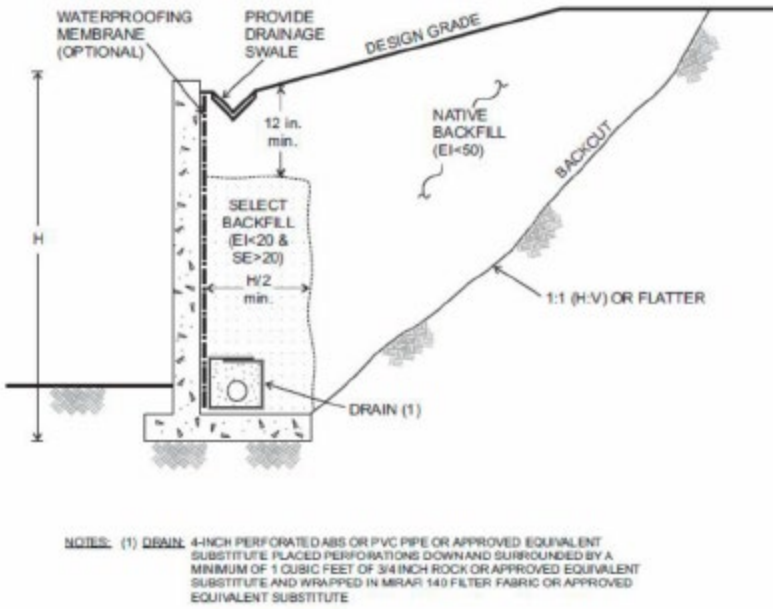
H = Height of wall (feet)

γ = soil density (120 pounds per cubic feet [pcf])

k_h = seismic pseudostatic coefficient equals $0.5*PGA_M$

Walls shall be designed to resist the combined effects of static pressures and the above seismic thrust load.

- **Retaining Wall Backfill and Drainage.** Retaining walls shall be provided with a drainage system adequate to prevent the buildup of hydrostatic pressures. To relieve the potential for hydrostatic pressure, wall backfill shall consist of a free draining soil (sand equivalent "SE" >20) and a heel drain shall be constructed to the specifications of the figure below (Figure 8.1.6 of the Geotechnical Report). The heel drain shall consist of a 4-inch diameter perforated pipe (SDR35 or SCHD 40) surrounded by 4 cubic feet of crushed rock (3/4-inch) per lineal foot, wrapped in filter fabric (Mirafi® 140N) or approved equivalent.



Proper drainage devices shall be installed along the top of the wall backfill, which shall be properly sloped to prevent surface water ponding adjacent to the wall. For building perimeter walls extending below the finished grade, the wall shall be waterproofed and/or damp-proofed to effectively seal the wall from moisture infiltration through the wall section to the interior wall face.

The wall shall be backfilled with granular soils placed in loose lifts no greater than 8-inches thick, at or near optimum moisture content, and mechanically compacted to a minimum 90 percent of the maximum dry density as determined by ASTM D1557. Flooding or jetting of backfill materials generally do not result in the required degree and uniformity of compaction and, therefore, is not recommended. No backfill shall be placed against concrete until minimum design strengths are achieved as verified by compression tests of cylinders. The geotechnical consultant shall observe the retaining wall footings, back drain installation, and be present during placement of the wall backfill to confirm that the walls are properly backfilled and compacted.

GEO-8 Civil Design

- **Drainage.** Final site grading shall assure positive drainage away from structures, and positive drainage away from structures shall be maintained. The use of gutters and down spouts to carry roof drainage away from structures is recommended. Planter areas shall be provided with area drains to transmit irrigation and rainwater away from structures. Raised planters shall be provided with a positive means to remove water through the face of the containment wall.

- **Infiltration.** Onsite infiltration is not recommended due to the shallow depth to groundwater and the fine-grained clayey nature of the onsite soils. Storm water best management practices (BMP) shall be designed for a *no infiltration condition*.
- **Concrete Framework and Lot Improvements.** To minimize shrinkage cracking, concrete flatwork shall be constructed of uniformly cured, low-slump concrete and shall contain sufficient control/contraction joints (typically spaced at 8 to 10 feet, maximum). Concrete flatwork shall be designed utilizing 4-inch minimum thickness. Consideration shall be given to reinforcing any exterior flatwork. Consideration shall be given to construct a thickened edge (scoop footing) at the perimeter of slabs and walkways adjacent to landscape areas to minimize moisture variation below these improvements. The thickened edge (scoop footing) shall extend approximately 8 inches below concrete slabs and shall be a minimum of 6 inches wide.

  Additional provisions shall be incorporated into the design and construction of all improvements exterior to the proposed structures (pools, spas, walls, patios, walkways, planters, etc.) to account for the nature of the project, as well as being designed to account for potential expansive soil conditions. Design considerations may need to include provisions for differential bearing materials (bedrock vs. compacted fill), ascending/descending slope conditions, bedrock structure, perched (irrigation) water, special surcharge loading conditions, potential expansive soil pressure, and differential settlement/heave.
- **Preliminary Pavement Design.** For preliminary design and estimating purposes, the following pavement structural sections shall be used for the range of likely traffic indices. The structural sections are based upon an assumed "R"-Value of 10.

Traffic Type	Traffic Index (TI)	Asphaltic Concrete AC (inch)	Class II Aggregate Base AB (inch)
Auto (Light)	5.0	3.0	9.0
Truck Traffic	6.0	4.0	11.0

  The Portland cement concrete pavement section of the site shall consist of 6-inch-thick Portland cement concrete with a flexural strength of 650 psi placed over compacted subgrade. If soft subgrade areas are exposed during grading, these areas shall be remediated by removing the upper 1 to 2 feet and replacing with gravel/rock and geogrid reinforcement. Subgrade soils shall be compacted to at least 95 percent of maximum density as determined by ASTM D-1557. Aggregate base materials shall be compacted to at least 95 percent of maximum density as determined by California Test 216.

  Final pavement design and subgrade stabilization recommendations shall be based upon site conditions and representative sampling of as-graded soils pursuant to City of San Marcos guidelines.
- **Buried Fuel Tanks.** Four buried fuel tanks (Unleaded Gas 20,000 gal, Leaded Gas 12,000 gal, Diesel 10,000 gal, and the 10,000 gal E85) may be embedded as deep as 18 feet from finished grade and below the existing groundwater level. For design, a groundwater elevation of 587 feet above mean sea level shall be assumed. Underpinning with hold-down piers shall be required to resist the potential uplift forces.

Significance After Implementation of Mitigation

Implementation of Mitigation Measures GEO-1 through GEO-8 would avoid potential impacts due to liquefaction during construction and reduce impacts to less than significant levels.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

a.4. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

According to the CGS Earthquake Zones of Required Investigation Map, the project site is not located in an area susceptible to landslides (DOC 2020b) and is classified as an area of Zero Susceptibility to landslides according to the San Marcos General Plan (2013). There are no steep slopes on or near the project site, and the proposed project would not create steep slopes susceptible to landslides. Therefore, there would be no risk associated with landslides and there would be no impact.

NO IMPACT

b. Would the project result in substantial soil erosion or the loss of topsoil?

Ground-disturbing activities associated with project implementation would result in the removal of some topsoil during construction. Standard construction BMPs would be implemented to avoid or minimize soil erosion associated with ground-disturbing activities. As discussed furthermore in Section 10, *Hydrology and Water Quality*, implementation of erosion control measures required by SMMC Section 17.32.13, *Permanent Erosion Control*, as well as adherence to requirements provided by the NPDES permit for construction activities would avoid or minimize potential impacts. Upon completion of construction activities, the site would be almost entirely paved, and soils would be stabilized by landscaping, minimizing the potential for soil erosion. Therefore, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c. 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?

d. 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?

Unstable soils include expansive, compressible, erodible, corrosive, or collapsible soils. Expansive soils are associated with alluvium and bedrock formations that contain minerals susceptible to expansion under wet conditions and contracting under dry conditions. The City's General Plan Safety Element identifies likely locations for collapsible soils within the Twin Oaks Valley Creek and Twin Oaks Valley Drainage adjacent to the project site. According to the Geotechnical Report, the site is underlain by alluvial flood plain deposits which are underlain by Older Terrace deposits and contains soils with low to medium expansion potential.

As discussed above, the project site is not located in an area susceptible to landslides and impacts from liquefaction would be reduced to a less than significant level by following the recommendations outlined in the Geotechnical Report (Appendix GEO).

Lateral spreading is defined as the finite, lateral displacement of sloping ground because of pore pressure build-up or liquefaction in a shallow underlying deposit during an earthquake. According to

the Geotechnical Report, due to the sloping conditions in the vicinity of Twin Oaks Valley Creek and the liquefaction potential, lateral spreading is considered a seismic hazard at the site. Densification of the upper portion of site soils may be used to mitigate the lateral spreading potential at the site (AGS Inc. 2020). Additionally, due to the presence of the relatively dense underlying terraces deposits materials, and the lack of deep consolidated soils, the potential for subsidence and ground fissuring due to settlement is unlikely (AGS Inc. 2020).

Impacts related to liquefaction and lateral spreading would be mitigated by adhering to Mitigation Measures GEO-1 through GEO-8. Impacts related to landslides, subsidence and collapse are considered unlikely at the project site. Therefore, impacts from unstable soils and placing structures on expansive soils would be less than significant with the implementation of mitigation.

Significance After Implementation of Mitigation

Implementation of Mitigation Measures GEO-1 through GEO-8 would avoid potential impacts due to liquefaction and reduce impacts to less than significant levels.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

e. 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?

The project would connect to the existing sewer system and not use septic tanks or another alternative wastewater disposal system. Therefore, there is no impact to soils from proposed septic tanks or wastewater.

NO IMPACT

f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The paleontological sensitivities of the geologic units underlying the project site were evaluated to determine if the proposed project could result in significant impacts to paleontological resources. The analysis was based on the results of an online paleontological locality search and review of existing information in the scientific literature concerning known fossils within geologic units mapped within the project site. Fossil collections records from the Paleobiology Database and University of California Museum of Paleontology (UCMP) online database were reviewed for known fossil localities in San Diego County (Fossilworks 2021; UCMP 2021). Based on the available information contained in existing scientific literature and the UCMP database, paleontological sensitivities were assigned to the geologic units underlying the project site. The potential for impacts to scientifically important paleontological resources is based on the potential for ground disturbance to directly impact paleontologically sensitive geologic units. The Society of Vertebrate Paleontology (SVP) has developed a system for assessing paleontological sensitivity and describes sedimentary rock units as having high, low, undetermined, or no potential for containing scientifically significant nonrenewable paleontological resources (SVP 2010). This system 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 project lies in the Peninsular Ranges Geomorphic Province, one of 11 major geomorphic provinces in California (CGS 2002). In general, the Peninsular Ranges consist of young, steeply sloped, northwest trending mountain ranges underlain by metamorphosed Late Jurassic to Early

Cretaceous-aged extrusive volcanic rock and Cretaceous-aged igneous plutonic rock of the Peninsular Ranges Batholith.

The project area is mapped at a scale of 1:100,000 and indicates that the site is immediately underlain by young alluvial flood plain deposits (Qya) which are subsequently underlain at depth by Mesozoic (la metamorphic and metavolcanic rocks, including tonalite (Mzu, Kt) (Kennedy et al. 2007). Based on site exploration undertaken as part of the Geotechnical Report analysis, it was determined that the site is underlain by alluvial flood plain deposits (Qal) which are underlain by Older Terrace deposits (Qt) at shallow or moderate depths. Surficial undocumented fill soils locally mantle the alluvial deposits along the southern, western, and northern boundaries of the project site (AGS Inc. 2020). Artificial undocumented fill (afu) consists of clayey silt to silty clay and gravelly silty medium to fine grained sand medium brown to grey in color. Undocumented artificial fill soils extended to depths of 2 to 5 feet in localized areas along the north, east, and south perimeter of the property.

Alluvial flood plain deposits (Qal) were encountered at the surface and extended to depths ranging from 8.5 to 9 feet from existing grade. In general, upper alluvial deposits are characterized as sandy clay to silty clay, dark grey brown to tan, saturated and soft. Deeper deposits consist of brown to gray, interbedded medium to coarse grained sand and gravel observed near the contact with underlying Terrace deposits. Terrace deposits and older alluvial flood plain deposits (Qt) were countered beneath the young alluvium. The upper portion of terrace/older alluvial deposits consist of mottled grey to brown and red brown, very moist to saturated, loose, silty sand to clayey sand, and soft sandy clay to silty clay to approximate depths ranging from 9 to 14.5 feet. The underlying terrace/older alluvial deposits became medium dense to dense and very stiff at depth.

Based on the findings of the geotechnical evaluation prepared for the project, the transition between younger (Qya/Qal) and older alluvial/terrace deposits (Qt) in the project site was documented at depths ranging from 9 to 14.5 feet below ground surface. Mesozoic metamorphic rocks were not encountered during subsurface explorations; however, these older metasedimentary and metavolcanic rocks may be present at moderate or unknown depths within the project site (AGS Inc. 2020).

According to the San Marcos General Plan EIR, Quaternary old alluvial deposits have the potential to yield fossil specimens of various mammalian and avian fauna from the Pleistocene Epoch (City of San Marcos 2012). Several vertebrate fossil localities have been reported in Vista, Carlsbad, and Oceanside from Pleistocene alluvial flood plain deposits. These localities have yielded fossils of terrestrial plants, freshwater and terrestrial invertebrates such as clams and snails, and terrestrial mammals such as ground sloth, rodents, horse, tapir, camel, llama, deer, mastodon, and mammoth. A review of the museum records maintained in the UCMP online collections database yielded records of at least four vertebrate fossil localities (V5223, V6373, V65282, V91243) from Quaternary old (early Holocene to Pleistocene) sedimentary deposits in San Diego County. These reported vertebrate localities produced specimens of mastodon (*Mammut*), fur seal (*Arctocephalus*), and horse (*Equus*). Depths of recovery were not reported (UCMP 2021).

Based on the paleontological locality searches, literature review, and geotechnical evaluation prepared for the project, the mapped geologic unit in the project site (i.e., Qya/Qal) was determined to have paleontological sensitivities ranging from low to high, increasing with depth (AGS Inc. 2020; Paleobiology Database 2021; UCMP 2021; SVP 2010). Late to middle Holocene alluvial deposits (i.e., Qya/Qal) in the project site are too young (i.e., less than 5,000 years old) to preserve paleontological resources at or near the surface and are considered to have a low paleontological sensitivity. As described above, numerous significant vertebrate fossils have been recovered from the Quaternary

old (early Holocene to Pleistocene) alluvial and terrace deposits (e.g., Qt) in San Diego County and throughout California and is assigned a high paleontological sensitivity (Fossilworks 2021; San Marcos 2012; UCMP 2021). The alluvial deposits in the project site are determined to be low at the surface, but increase in sensitivity at depth and are assigned a high paleontological sensitivity at and below depths of 9 feet below ground surface.

Mesozoic metamorphic rocks (Mzu, Kt) which underlie older alluvial/terrace deposits (i.e., Qt) in the project site at moderate or unknown depths, are considered to have no paleontological sensitivity as their formation is not conducive to the preservation of paleontological resources.

The project site is in an urban area and has been previously disturbed. However, extensive excavations associated with the proposed subterranean components would likely extend below the boundary between younger alluvial sediments (or artificial fill) and native (i.e., previously undisturbed) alluvial/terrace deposits of early Holocene to Pleistocene age. If native/intact sediments or geologic units with a high paleontological sensitivity at the shallow subsurface are disturbed, impacts to paleontological resources could occur. Construction activities may result in the destruction, damage, or loss of undiscovered paleontological resources.

The following mitigation measure would address the potentially significant impacts relating to the discovery of paleontological resources during project implementation and ground-disturbing activities. This measure would apply to all phases of project construction and would ensure that any significant fossils present on-site are preserved. Implementation of Mitigation Measure GEO-9 would reduce potential impacts to paleontological resources to less than significant level and would effectively mitigate the project's impacts to these resources through the recovery, identification, and curation of previously unrecovered fossils.

Mitigation Measure

GEO-9 Paleontological Resources

Prior to the commencement of project construction, a qualified paleontological monitor (i.e., a paleontologist who meets the SVP [2010] standards as a Paleontological Resource Monitor) shall be retained to conduct paleontological monitoring during ground-disturbing activities (including, but not limited to site preparation, grading, excavation, and trenching) of native (i.e., previously undisturbed) Quaternary old terrace deposits (Qt). Monitoring shall be supervised by a Qualified Paleontologist (i.e., a paleontologist who meets the SVP [2010] standards as a Qualified Professional Paleontologist).

Full-time monitoring shall be conducted for all ground-disturbing activities associated with excavations for the proposed subterranean components exceeding depths of 9 feet below ground surface. These project activities have a high potential of disturbing native (previously undisturbed) paleontologically-sensitive deposits (i.e., Quaternary old terrace deposits). If Quaternary old terrace deposits (e.g., Qt) is not observed at the full depth of excavations associated with the proposed subterranean components or if deposits of Mesozoic metamorphic rocks (Mzn, Kt) are encountered, monitoring can be discontinued. Ground-disturbing activities that impact previously disturbed sediments (i.e., artificial fill) only and ground disturbance within geologic units with no paleontological sensitivity (i.e., Mesozoic metamorphic rocks [Mzu, Kt]) do not require paleontological monitoring.

The duration and timing of the monitoring shall be determined by the Qualified Paleontologist. If the Qualified Paleontologist determines that full-time or part-time monitoring is no longer

warranted based on observed geology, he or she may recommend reducing monitoring to periodic spot-checking or may recommend that monitoring cease entirely. Monitoring shall be reinstated if any new ground disturbances of previously undisturbed areas are required, and reduction or suspension shall be reconsidered by the Qualified Paleontologist at that time.

If a paleontological resource is discovered, the monitor shall have the authority to temporarily divert construction equipment around the find until it is assessed for scientific significance and collected. Once salvaged, significant fossils shall be prepared to a curation-ready condition and curated in a scientific institution with a permanent paleontological collection (such as the San Diego Natural History Museum or UCMP). Curation fees are the responsibility of the project owner.

A final report shall be prepared describing the results of the paleontological monitoring efforts associated with the project. The report shall include a summary of the field and laboratory methods, an overview of the project geology and paleontology, a list of taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and recommendations. The report shall be submitted to City. If the monitoring efforts produced fossils, then a copy of the report shall also be submitted to the designated museum repository.

Significance After Implementation of Mitigation

Implementation of Mitigation Measure GEO-9 would reduce impacts to unknown paleontological resources to less than significant levels.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

8 Greenhouse Gas Emissions

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

Rincon Consultants, Inc. prepared an Air Quality and Greenhouse Gas Study to analyze the project's air quality emissions and impacts on surrounding sensitive land uses. The analysis considered temporary construction impacts and long-term operation impacts associated with the project. The results of the Air Quality and Greenhouse Gas Study are used in the analysis in this section and included as Appendix AQ/GHG.

Climate Change

For most of the earth's geologic history, periods of warming and cooling have been the result of many complicated interacting natural factors that include: volcanic eruptions that spew gases and particles (dust) into the atmosphere; the amount of water, vegetation, and ice covering the earth's surface; subtle changes in the earth's orbit; and the amount of energy released by the sun (sun cycles). However, since the beginning of the Industrial Revolution, around 1750, the average temperature of the earth has been increasing at a rate faster than can be explained by natural climate cycles alone.

Gases that absorb and re-emit infrared radiation in the atmosphere are called Greenhouse Gases (GHGs). The gases that are widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO_2), methane (CH_4), nitrous oxides (N_2O), fluorinated gases such as hydrofluorocarbons and perfluorocarbons and sulfur hexafluoride (SF_6).

According to *California's Fourth Climate Change Assessment*, statewide temperatures from 1986 to 2016 were approximately 1°F to 2°F higher than those recorded from 1901 to 1960. Potential impacts of climate change in California may include loss of water supply from snowpack, sea level rise, more extreme heat days per year, more large forest fire events, and more drought years (State of California 2018).

Greenhouse Gas Reduction Plans

California implemented Assembly Bill (AB) 32, the "California Global Warming Solutions Act of 2006," to codify the Statewide goal of reducing emissions to 1990 levels by 2020 (essentially a 15 percent reduction below 2005 emission levels) and adopt regulations to require reporting and verification of statewide GHG emissions. On September 8, 2016, the governor signed Senate Bill 32 (SB 32) into law, which extends AB 32, and directs CARB to ensure that GHGs are reduced to 40 percent below the 1990 level by 2030.

On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally-appropriate quantitative thresholds consistent with a statewide per capita goal of 6 metric tons (MT) CO_2e by 2030 and 2 MT CO_2e by 2050 (CARB 2017). As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level analyses (city, county, subregional, or regional level), but not for specific individual projects because they include all emissions sectors in the State.

Many individual projects do not generate sufficient GHG emissions to directly influence 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 would be 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]).

At the local level, the City of San Marcos adopted its CAP in December 2020. The City's updated CAP establishes GHG emissions targets for years 2020 and 2030, consistent with statewide goals identified in AB 32, Executive Order S-03-05, and SB 32 and contains comprehensive implementation actions related to transportation, land, energy, and water uses, as well as managing wastewater and solid waste generation.

The City's CAP includes three methods to evaluate the GHG impacts associated with proposed development projects in the City. The first method is to screen out projects that would be too small to make a considerable contribution to the cumulative impact of climate change and would not need to provide additional analysis to demonstrate consistency with the CAP. The City developed a list of project screening thresholds for various project types that would be anticipated to emit less than 500 MT CO_2e per year. The second method is to evaluate whether a project would incorporate applicable GHG reduction measures from the CAP. The City prepared a CAP Consistency Checklist to simplify this review; where a project complies with the checklist, no further analysis is required. The third method is intended to accommodate projects that cannot use the Checklist due to unique land uses or circumstances but are otherwise consistent with CAP projections. These projects may incorporate project-specific GHG reduction measures and demonstrate consistency with the CAP through comparison to a numerical threshold of 2.1 MT CO_2e per service population per year, where service population is defined as the sum of the number or residents and jobs generated by the project.

a. Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

b. Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The updated San Marcos CAP, with a 2030 target that is consistent with SB 32, is a qualified GHG reduction plan consistent with the requirements of CEQA Guidelines Section 15183.5. Therefore, this project-level analysis is streamlined by tiering off the San Marcos CAP. Project GHG emissions would be less than significant if it can be demonstrated that the project would be consistent with the CAP. In addition, quantification of project GHG emissions has been provided for informational purposes.

Project Emissions

The proposed project would result in GHG emissions from construction-related sources such as construction equipment use, construction-related commute, hauling, and delivery trips. Operation-related sources would include project-generated traffic, energy use, area sources, water use, and solid waste disposal.

As detailed in the project Air Quality and Greenhouse Gas Study, GHG emissions associated with the project were calculated using CalEEMod. Table 11 summarizes GHG emissions associated with the proposed project for informational purposes. As shown therein, the project would generate approximately 654 MT CO_2e per person per year.

Table 11 Project Annual Equivalent Emissions

Emission Source	Annual Emissions (MT CO_2e)
Construction[1]	5
Operational	
Area	<1
Energy	35
Solid Waste	11
Water	8
Mobile	
CO_2 and CH_4	579
N_2O	15
Total Project Emissions	654

[1] Construction emissions were estimated to be 163 MT CO_2e. Results were amortized over a 30-year period.

Source: Appendix AQ/GHG CalEEMod worksheets

CAP Consistency Checklist

The City of San Marcos CAP is a qualified GHG reduction plan consistent with the requirements of CEQA Guidelines Section 15183.5. The CAP Consistency Checklist evaluation for the project is summarized below.

Step 1: Land Use Consistency

Step 1 of the CAP Consistency Checklist evaluates the land use consistency of a project. If a project is consistent with the existing General Plan land use and specific/master plan or zoning designations, then the project proceeds to Step 2 of the Checklist.

The General Plan land use designation for the project site is Commercial, as is the underlying zoning designation. The project proposes development of a convenience store with fuel pumps and an automated car wash which is permitted in Commercial designated lands. Therefore, the project would be consistent with the City's existing General Plan land use and zoning designation.

Step 2: CAP Measures Consistency

Step 2 of the CAP Consistency Checklist evaluates a project's implementation of applicable GHG reduction measures from the CAP.

ELECTRIC VEHICLE CHARGING STATIONS (MEASURE T-2) - EXCEEDED

This measure applies to multi-family residential and non-residential projects. Where applicable, projects shall install electric vehicle charging stations (Level 2 or better) in at least 5 percent of the total parking spaces provided on-site.

The project would include 25 on-site parking spaces; 5 percent of this amount would equate to two spaces. The project would provide electric vehicle charging stations at three parking spaces, which would exceed the requirements of Measure T-2.

BICYCLE INFRASTRUCTURE (MEASURE T-8) – NOT APPLICABLE

This measure applies to residential and non-residential projects which would either propose intersection or roadway improvements or the City's General Plan Mobility Element identifies bicycle infrastructure improvements at an intersection or roadway segment improved as part of the project.

This measure would not be applicable to the project because the proposed project would not include any intersection or roadway segment improvements.

TRANSPORTATION DEMAND MANAGEMENT (MEASURE T-9) – NOT APPLICABLE

This measure applies to multi-family residential and non-residential projects that would be subject to the City's TDM Ordinance. Where applicable, projects shall develop and implement a TDM Plan.

Based on data provided by the applicant, the proposed convenience store would have three employees per shift and two shifts per day and the proposed car wash would have one attendant per day. Thus, the project would be anticipated to have seven employees. The City's TDM Ordinance has not yet been drafted. Due to the minimal employee count, TDM strategies included in the CAP such as mass transit subsidies, carpool spaces, pedestrian connections, bicycle racks, employee showers/lockers, and telecommuting would not achieve meaningful GHG reductions and therefore are not applicable. Based on a review of similar ordinances,[1] the project is anticipated to be exempt from the TDM Ordinance because this limited amount of employment generated by the project is

[1] For example, the San Diego County Checklist indicates that TDM Ordinance measures would not accommodate more than 25 employees and the City of San Diego CAP Checklist indicates that the TDM Ordinance measures would not accommodate more than 50 employees.

far less than thresholds of applicability of similar ordinance adopted by nearby jurisdictions. For these reasons, this measure is presumed to not be applicable.

REDUCE PARKING NEAR TRANSIT (MEASURE T-12) – NOT APPLICABLE

This measure applies to multi-family residential projects which would be located within one half-mile of a major transit stop. Where applicable, projects shall provide at least 27 percent fewer parking spaces than required based on the City's municipal code parking requirements.

The proposed project is a gas station with a car wash and convenience store. This measure would not be applicable because the project proposes non-residential uses.

WATER HEATERS (MEASURE E-L) – NOT APPLICABLE

This measure applies to residential projects. Where applicable, projects shall install one, or a combination of, specified water heater types.

The proposed project is a gas station with a car wash and convenience store. This measure would not be applicable.

PHOTOVOLTAIC INSTALLATION (MEASURE E-2L) - EXCEEDED

This measure applies to non-residential projects. Where applicable, projects shall install photovoltaic systems with a minimum capacity of two watts per sf of gross floor area.

The project proposes a 4,083-sf convenience store with 712 sf of storage space and a 2,134 square foot car wash. The gas station canopy would be 5,462 sf and include 16 fuel pumps. Consistency with this item would require a photovoltaic system with a capacity of approximately 24.8 kW. The project would comply with this item through installation of solar panels on the rooftop of the car wash; the rated capacity of the system would be approximately 45 kW. As discussed previously, the project's photovoltaic system would be anticipated to generate approximately 76,500 kWh per year.

LANDSCAPING WATER USE (MEASURE W-L) – MET

This measure applies to residential and non-residential projects which are subject to the City's Water Efficient Landscape Ordinance. Where applicable, projects shall comply with the Water Efficient Landscape Ordinance.

The project would comply with the City's Water Efficient Landscape Ordinance. The Maximum Applied Water Allowance for the project is 471,444 gallons per year.

URBAN TREE CANOPY (MEASURE C-2) - EXCEEDED

This measure applies to single-family residential projects and to multi-family and non-residential projects which provide more than 10 parking spaces. Where applicable, single family residential projects shall plant one tree per unit and multi-family and non-residential projects shall provide one tree per five parking spaces.

The project would include 25 on-site parking spaces; one tree per five spaces would equate to five trees. The project would include 24 total trees, which would exceed the requirements of Measure T 2. Proposed trees include includes 4 Marina arbutus trees, 4 coast live oak trees , and 16 Desert Museum palo verde trees.

Checklist Conclusion

As shown, the project would be consistent with all applicable measures from the CAP Consistency Checklist. As the City of San Marcos CAP is a qualified GHG reduction plan consistent with the requirements of CEQA Guidelines Section 15183.5 and the project is consistent with the San Marcos CAP, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	■	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	■	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	☐	☐	■	☐
d. Be located on a site 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?	☐	☐	☐	■
e. For a project located in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	■
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	■
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	■	☐

a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Potential hazardous materials, such as fuel, paint products, lubricants, solvents, and cleaning products, may be used and/or stored on-site during the construction of the proposed project. However, due to the limited quantities of these materials to be used during construction, they are not considered hazardous to the public at large. The transport, use, and storage of hazardous materials during project construction would be conducted pursuant to all applicable federal, State, and local policies, including but not limited to Title 49 of the Code of Federal Regulations implemented by Title 13 of the CCR, which describes strict regulations for the safe transportation of hazardous materials, and in cooperation with the County Fire Department's Health Hazardous Materials Division.

During operation, the project would be subject to routine inspection by federal, State, and local regulatory agencies with jurisdiction over fuel-dispensing facilities. Hazardous materials regulations, which are codified in Titles 8, 22, and 26 of the CCR, and their enabling legislation set forth in Chapter 6.95 of the California Health and Safety Code, were established at the State level to ensure compliance with federal regulations and to reduce the risk to human health and the environment from the routine use of hazardous substances. Protection against accidental spills and releases provided by this legislation includes physical and mechanical controls of fueling operations, including automatic shutoff valves; requirements that fueling operations are contained on impervious surface areas; oil/water separators or physical barriers in catch basins or storm drains; vapor emissions controls; leak detection systems; and regular testing and inspection.

The applicant is also required to comply with applicable provisions of Title 49 CFR Parts 100–185 and all amendments through December 9, 2005 (Hazardous Materials Regulations). Hazardous materials must be stored in designated areas designed to prevent accidental release to the environment. CBC requirements prescribe safe accommodations for materials that present a moderate explosion hazard, high fire or physical hazard, or health hazards. Gasoline dispensing operations in San Diego County are also subject to SDCAPCD regulations concerning the release of hazardous materials and are required to be equipped with certified vapor recovery systems (SDCAPCD n.d.).

The gasoline and diesel fuel would need to be transported via truck – a routine procedure that is not expected to impose excessive risk. The project would be required to comply with the California Vehicle Code Section 31303, which requires that hazardous materials be transported using routes with the lowest travel time. California Vehicle Code Section 31303 further prohibits the transportation of hazardous materials through residential neighborhoods. Therefore, impacts associated with handling, storing, and dispensing of hazardous materials during construction and operation of the project would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. 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?

Although the project involves the storage and use of petroleum gasoline, compliance with all applicable federal and State laws related to the storage of hazardous materials would be required to maximize containment and provide for prompt and effective cleanup if an accidental release occurs. Applicable standards include the CalEPA's Aboveground Petroleum Storage Act, Cal/OSHA operational requirements, and California Health and Safety Code Section 25270 regarding aboveground storage tanks.

The San Diego County Hazardous Materials Division is the local Certified Unified Program Agency, the agency responsible for the implementation and regulation of the CalEPA's Unified Program which consolidates the following programs: the Aboveground Petroleum Storage Act Program, California Accidental Release Prevention (CalARP) Program, Hazardous Materials Business Plan (HMBP) Program, Hazardous Materials Management and Inventory Program, Hazardous Waste and Hazardous Waste Treatment Program, and the Underground Storage Tank (UST) Program.

Operators or facilities that use or store large quantities of hazardous materials are required by law to prepare a HMBP that lists the hazardous materials stored and their volumes and locations and submit the plan through the California Environmental Reporting System (CERS). Users of acutely hazardous materials above prescribed thresholds must prepare and submit a Risk Management Plan (RMP) under the CalARP Program. The purpose of the CalARP program are to prevent accidental releases of substances that can cause serious harm to the public and the environment, to minimize the damage if releases do occur, and to satisfy community right-to-know laws. Release reporting is required by several State and federal laws.

In compliance with these regulations, the proposed project incorporates several safety design features, including:

- Leak detection methods for underground storage tanks, including Automatic Tank Gauging, Groundwater Monitoring, and Tank Tightness Testing and Inventory Control
- Aboveground Spill Detection and Prevention Methods
- Vapor Recovery System
- Emergency Shut Off Devices

With adherence to the listed project design feature, and due to existing and applicable State, federal, and county laws and programs regarding hazardous materials management, safety and reporting, impacts associated with reasonably foreseeable upset and accident conditions involving the release of hazardous materials during construction and operation of the project would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c. 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?

The nearest existing school, MAAC Project - Head Start Preschool (444 Firebird Lane), is located approximately 0.4 mile southwest of the project site. The project would comply with federal, State, and local policies to ensure the project would not create significant hazards to the public and environment as described above. The project would not emit hazardous emissions or handle

hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of existing or proposed schools directly, indirectly, or cumulatively. Therefore, 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, and there would be a less than significant impact.

LESS THAN SIGNIFICANT IMPACT

d. 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?

The project site is not listed as a hazardous material site compiled pursuant to Government Code Section 65962.5. The following resources were reviewed to determine if hazardous materials may be present at the project site, including:

- Online Cortese List database[2] (California Department of Toxic Substances Control (DTSC) 2020a),
- California State Water Resource Control Board's (SWRCB's) online GeoTracker database (SWRCB 2020a),
- DTSC's online EnviroStor database (DTSC 2020b),
- Online historical topographic maps dating back to 1893[3] and 1938[4] (Nationwide Environmental Title Research 2020),
- State of California Geologic Energy Management Division (CalGEM) Online Mapping System[5] (CalGEM 2020),
- National Pipeline Mapping System (NPMS) online Public Map Viewer[6] (Pipeline and Hazardous Materials Safety Administration [PHMSA] 2020), and
- SWRCB polyfluoroalkyl substances (PFAS) database[7] (SWRCB 2020b).

A review of the SWRCB GeoTracker and DTSC EnviroStor databases found that the project site is not listed as a hazardous materials site or an unauthorized release site. One unauthorized release site was identified within 1,000 feet of the subject property (see below).

According to available online historical topographic maps dating back to 1893, the project site has never been developed. The review of available online historical aerial photographs dating back to 1938, found the project site undeveloped land from 1938 to 2010, used as a construction laydown yard in 2012, and vacant from 2013 to present day.

CalGEM Online Mapping System indicates that no oil wells are located on the subject property, adjacent properties, or within 0.25 mile of the project site. The NPMS online Public Map Viewer indicates that no natural gas transmission pipelines or hazardous liquid pipelines are located on the project site or adjacent properties.

According to the SWRCB's online GeoTracker database, one unauthorized release site was identified within 1,000 feet of the subject property and according to the DTSC's online EnviroStor database the

[2] https://www.envirostor.dtsc.ca.gov/public/search.asp?cmd=search&reporttype=CORTESE&site_type=CSITES,OPEN,FUDS,CLOSE&status=ACT,BKLG,COM&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST
[3] https://www.historicaerials.com/viewer
[4] https://www.historicaerials.com/viewer
[5] https://www.conservation.ca.gov/calgem/Pages/WellFinder.aspx
[6] https://www.npms.phmsa.dot.gov/PublicViewer/
[7] https://www.waterboards.ca.gov/pfas/

same unauthorized release site was identified as being within 0.25 mile of the subject property as follows:

- **Midway Container at 664 North Twin Oaks Valley Road.** This property is located adjacent to the west of the subject property across North Twin Oaks Valley Road. According to EnviroStor, this property is a Tiered Permit site with a cleanup status of "inactive – needs evaluation." No additional information was available on EnviroStor. According to GeoTracker, this property is a Cleanup Program Site with a cleanup status of "completed – case closed" as of December 6, 1996. The property's GeoTracker page indicates that the potential media of concern was soil and the San Diego County Local Oversight Program was the lead cleanup oversight agency. No additional information was available on GeoTracker. According to documents reviewed on the San Diego County Department of Environmental Health (DEH) online Environmental Health Document Search database[8], (VOCs) were detected in soil samples collected 1 foot below the base of a former four-stage clarifier located at the Midway Container facility; however, VOCs were not detected above laboratory reporting limits in groundwater samples collected from a groundwater monitoring well located adjacent to the former clarifier. The concentrations of VOCs detected in soil at the Midway Container site were compared to the July 2019 (Revision 2) San Francisco Bay RWQCB Environmental Screening Levels (ESLs) for commercial sites. The detected concentrations of the VOCs detected in soil are below the ESLs for direct shallow soil exposure for human health risk at residential and commercial/industrial properties and for construction workers. Based on the information reviewed, the Midway Container property is not expected to have adversely impacted the project site.

In 2019, the California SWRCB sent assessment requirements to property owners of sites that may be potential sources of PFAS. These sites currently include select landfills, airports, and chrome plating facilities. In August 2020, the SWRCB expanded the assessment requirements to include some publicly owned wastewater treatment works facilities. According to the SWRCB, "PFAS are a large group of human-made substances that do not occur naturally in the environment and are resistant to heat, water, and oil" (SWRCB 2019). Review of the California 2019 Statewide PFAS Investigation online Public Map Viewer indicates that there are no current chrome plating, airport, landfill, or publicly owned treatment works PFAS orders at any facilities located within 0.5 mile of the project site. Additionally, review of the California 2019 Statewide Drinking Water System Quarterly Testing Results online Public Map Viewer indicates that no drinking water wells have been tested for PFAS within 2 miles of the project site. Therefore, the project would have no impact.

NO IMPACT

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

The project site is not located in any airport land use plan area or within 2 miles of a public airport. The nearest airport is the McClellan-Palomar Airport (2198 Palomar Airport Road) in the City of Carlsbad, approximately 6 miles west of the project site. The McClellan-Palomar Airport Land Use Compatibility Plan establishes six safety zones within the Airport Influence Area (AIA) to evaluate the safety compatibility of land use actions. These safety zone boundaries are based on general aviation aircraft accident location data, runway configuration, and aircraft operational procedures. No portion of the City lies within these established safety zones (City of San Marcos 2012).

[8] https://www.sandiegocounty.gov/content/sdc/deh/doclibrary/

Therefore, the project would not result in aviation-related safety hazards or excessive noise for people residing or working in the project area. The project would have no impact.

NO IMPACT

f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The construction and operation of the project would not substantially alter or otherwise interfere with public rights-of-way and would provide adequate internal ingress and egress for necessary emergency response vehicles. According to the City's General Plan, official evacuation routes have not been established; however, there are several main thoroughfares that would serve as primary evacuation corridors for most of the planning area in the event of an emergency (City of San Marcos 2012). The project site is located adjacent to two main thoroughfares that would serve as primary evacuation corridors in the event of an emergency: Twin Oaks Valley Road and Borden Road.

No roads would be permanently closed due to the construction or operation of the project, and no structures would be developed that could potentially impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. No structures would be developed that could potentially impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

If there are temporary lane closures during project construction (potentially on Twin Oaks Valley Road or Borden Road), construction activities would avoid interference with an emergency plan through the use of traffic control measures to maintain traffic flow and access and/or road detours. Due to the temporary nature of project construction and the use of traffic control measures to avoid interference with an emergency plan, potential impacts from project construction would be less than significant.

In addition, as discussed in Section 17, *Transportation*, the project would not have a significant impact on any area intersections that would be used for emergency access or evacuation. As such, implementation operation of the project would not interfere with existing emergency evacuation plans or emergency response plans in the area. Therefore, the operation of the project would not result in any impacts to emergency response or evacuation plans.

NO IMPACT

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

The project site is located on an undeveloped parcel that is not in a California Department of Forestry and Fire Protection (CalFIRE) Fire Hazard Severity Zone (VHFHSZ) but approximately 110 feet east of a VHFHSZ (CalFIRE 2021). The project would be designed, constructed, and operated pursuant to applicable standards outlined in the California Fire Code published by the California Building Standards Commission, 2019 Edition and adopted in Chapter 17 of the City of San Marcos Code of Ordinances. Such requirements include building and emergency access, adequate emergency notification, and means of egress for emergency vehicles. Such requirements include building and emergency access, adequate emergency notification, and means of egress for emergency vehicles. While project construction may require temporary truck and equipment access and parking on and around the project site, construction would not require lane or roadway closures that would temporarily impair emergency response or evacuation. Further discussion of

wildfire risks is included in Section 20, *Wildfire*. The project would not create a significant risk of loss, injury, or death involving wildfires, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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10 Hydrology and Water Quality

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

a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Potential water quality impacts associated with the project include short-term construction impacts from erosion and sedimentation as well as potential hazardous material discharge from construction equipment and materials. Because the project would involve development and ground disturbance of over 1 acre, it would be required to comply with regulations established under NPDES for construction stormwater discharges. The Construction General Permit, General Permit Order 2009-0009-DWQ, would also require the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. The project would also be required to submit three sets of erosion control plans along with the grading plans per SMMC Section 17.32.13, *Permanent Erosion Control*. The SWPPP for the Construction General Permit can be used for the City, but the project would also meet the minimum BMP requirements for the City that are detailed in the Construction Best Management Practices Manual. These would reduce potential construction impacts to water quality and discharge to a less than significant level.

Post construction and operation of the project would comply with Chapter 14.15 of the SMMC, which requires development of land to prevent, to the maximum extent possible, pollutants from entering the stormwater conveyance system in San Marcos. The project would also comply with requirements of the San Diego RWQCB Municipal Separate Stormwater Permit, Order No. R9-2013-0001. The City of San Marcos developed a Jurisdictional Urban Runoff Management Program (JURMP) to comply with this Order and to reduce pollution in urban runoff in San Marcos.

Under Order R9-2013-0001, the project would require additional treatment control BMPs under Provision E.3.b (City of San Marcos 2008b). The project would comply with all necessary provisions and BMPs, along with preparing a SWPPP.

With compliance with all applicable regulations and measures, the project would not violate water quality standards or waste discharge requirements. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. 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?

San Marco's water supply is provided primarily by Vallecitos Water District (VWD), which receives all its supply from the San Diego County Water Authority (SDCWA). SDCWA obtains most of its water from the State Water Project (SWP) and from the Colorado River via the Colorado River Aqueduct. The project site and area are located in the San Marcos Valley Groundwater Basin. VWD currently does not obtain water from the groundwater basin, as it receives its water from SDCWA, which is not reliant on imported water sources. VWD conducted a groundwater feasibility analysis in 1996 which concluded the storage capacity would not produce groundwater at an economically viable rate, even in the short term (VWD 2015). Therefore, there would be no impact to groundwater depletion as the project would not utilize the groundwater as a potable water source.

The project is located in the San Marcos Valley Groundwater Basin on an undeveloped vacant lot with no impervious surfaces. Construction of the project would increase impervious surfaces with the construction of the fuel station, convenience store, automated car wash and associated parking spots and walkways to approximately 1.31 acres which could impact groundwater recharge and supplies. According to the Geotechnical Report, groundwater was found on the project site at depths of 6 to 11 feet from existing grades. Thus, dewatering may be necessary to accomplish

deeper excavations for utilities, tanks, and foundation elements (AGS Inc. 2020). Discharge of groundwater during the dewatering process would require a discharge permit in accordance with the NPDES permits. Accordingly, water testing and possible treatment of the discharge water would be necessary.

The project would be required to implement BMPs and submit the required NPDES permit, which would reduce the impacts of increased impervious surfaces. The project would comply with all applicable regulations and policies and would not utilize groundwater for construction or operation; therefore, impacts to groundwater would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c.(i) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?

c.(ii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

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

The project would increase the impervious surfaces on-site, but would be required to comply with a Construction General Permit, which entails an Erosion Control Plan, SWPPP, and compliance with JURMP. During the construction phase, the project would implement BMPs to for erosion and siltation prevention.

All development projects in San Marcos are required to meet minimum requirements of incorporating site design and source control BMPs. Source control BMPs, as mentioned above, would reduce erosion and siltation impacts on local drainage patterns. The project would also implement site design BMPs, or low impact development, to mimic the hydrology of the site before the development of the proposed project. The project would comply with the San Diego RWQCB Order R9-2013-0001, as amended by Order Nos. R9-2015-0001 and R9-2015-0100, otherwise known as the Municipal Permit, and the City's Treatment Control Best Management Practices (TCBMP) program to include post-construction BMPs. Under the SDRWQCB Order R9-2013-0001, the project would be considered a "Priority Development Project," and would be required to implement low-impact development (LID) BMPs designed to retain (i.e., intercept, store, infiltrate, evaporate, and evapotranspire) on-site the pollutants contained in the volume of storm water runoff produced from a 24-hour 85th percentile storm event (design capture volume).

Additionally, the project would implement BMPs to accommodate project runoff volumes and rates with those prior to project development. This would reduce any potential impacts on stormwater system capacity. The project would also comply with requirements of MS4 Permit No. R9-2013-0001, the JURMP, and Chapter 14.15 of the San Marcos Municipal Code, which would prevent pollutants, to the maximum extent possible, from entering the stormwater conveyance system.

Compliance with these regulations would reduce project impacts related to runoff exceeding system capacity to a less than significant level.

LESS THAN SIGNIFICANT IMPACT

c.(iv) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?

The project site is vacant and consists entirely of permeable surfaces adjacent to Twin Oaks Valley Creek. The project would involve construction of a fuel station, convenience store, and automated car wash which would increase the impervious surface cover on the project site by 13,705 square feet. Furthermore, according to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) the project is in a Special Flood Hazard area AE and a Regulatory Floodway subject to the one percent annual chance of flood (i.e., 100-year flood). The project will submit a CLOMR and LOMR application not FEMA for approval of the project, based on their requirements for development within special flood hazard areas and regulatory floodways.

As described above, the project would comply with the SDRWQCB Order R9-2013-0001, as amended by Order Nos. R9-2015-0001 and R9-2015-0100, otherwise known as the Municipal Permit, and the City's TCBMP program to include post-construction BMPs. The SDRWQCB permit requires capture and treatment of the 85th percentile, 24-hour storm event. Under the JRMP, all regulated commercial businesses are required to develop and implement Stormwater Management Plans to control stormwater runoff.

The project would include appropriate hydromodification and/or BMP devices at the southern end of the project site. With regards to offsite run-off flows, the project proposes to improve the existing on-site vegetated swale with a combination of a curb inlet and a new concrete channel that would also collect the newly generated and treated on-site flows after discharge out of the bio-filtration facility.

The hydrology study prepared for the project by HWL Planning & Engineering in 2020 (Appendix HYDRO) analyzed the stormwater flow and capture of future conditions during storm events. The calculations were in accordance with the guidelines set by the County of San Diego Hydrology Manual (2003). The proposed bio-filtration would store and manage the 100-year storm peak flows for flow attenuation to pre-development levels. The basin has a 24-inch by 24-inch riser box with a sharp crest weir which would act as a spillway such that peak flows could be safely discharged to the receiving storm drain system. The ultimate stormwater discharge points would not change from existing conditions, and graded areas and slopes would be landscaped to reduce or eliminate sediment discharge.

Given that the project would implement BMPs to capture and retain stormwater on-site, as described above for compliance with the City's TCBMP and County MS4 permit requirements, potential impacts related to the alteration of the site's drainage pattern would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

San Marcos is located downstream of various dams and reservoirs which create various inundation hazards in parts of the City. According to San Marcos General Plan Safety Element, there are four dams and ten reservoirs in the planning area. The project site is not located within an inundation zone from the dams or reservoirs located in the City. Furthermore, the Geotechnical Report concluded that the potential for a seiche impacting the property is considered unlikely as there are no upstream large bodies of water (AGS Inc. 2020). The project site is located 9.8 miles east of the Pacific Ocean and is not subject to tsunami risk.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), the project site is in a Special Flood Hazard Area (SFHA) Zone AE and subject to the one percent annual chance of flood (100-year flood). In the proposed condition, the project will be elevated above the SFHA and floodway base flood elevations, removing the risk of release of pollutants during flood events up to the 100-year storm. The eastern half of the project site is in a Regulatory Floodway and also subject to a 100-year flood (Map #06073C0793G) (FEMA 2012). As stated above, the project would comply with the San Diego RWQCB Order R9-2013-0001 and the City's TCBMP program to include post-construction BMPs. Under the San Diego RWQCB Order R9-2013-0001, the project would be considered a "Priority Development Project," and would be required to implement low-impact development BMPs designed to retain on-site the pollutants contained in the volume of storm water runoff produced from a 24-hour 85th percentile storm event (design capture volume).

The hydrology study analyzed the stormwater flow and capture of future conditions during storm events. The calculations were in accordance with the guidelines set by the County of San Diego Hydrology Manual (2003) (see Appendix HYDRO). The proposed bio-filtration would store and manage the 100-year storm peak flows for flow attenuation to pre-development levels. The basin has a 24-inch by 24-inch riser box with a sharp crest weir which would act as a spillway such that peak flows could be safely discharged to the receiving storm drain system. The ultimate stormwater discharge points would not change from existing conditions, and graded areas and slopes would be landscaped to reduce or eliminate sediment discharge. Given that the project would implement BMPs to capture and retain stormwater on-site, as described above for compliance with the City's TCBMP and County MS4 permit requirements, potential impacts related to release of pollutants due to project inundation would be less than significant.

LESS THAN SIGNIFICANT IMPACT

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The project would comply with all applicable regulations and measures to reduce potential water quality impacts during construction and operations of the project. Therefore, the project would not conflict with the implementation of San Diego RWQCB Basin Plan, which establishes water quality objectives and implementation measures. The project site is in the San Marcos Valley Groundwater Basin (9-032), a "Very Low" basin priority under the California Department of Water Resources (DWR) Final 2019 Basin Prioritization (DWR 2019). Therefore, it is not required to prepare a Groundwater Sustainability Plan under the Sustainable Groundwater Management Act. Therefore, the project would not impact a sustainable groundwater management plan. There would be no impact.

NO IMPACT

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11 Land Use and Planning

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

a. Would the project physically divide an established community?

The proposed project involves development of a fuel station, convenience store, and automated car wash on a vacant lot. The project site is undeveloped and consists of sparse patches of exposed soils with dense grasses and riparian vegetation. Twin Oaks Valley Creek trends northeast to southwest abutting the eastern portion of the project site. The project is in an urbanized area that is primarily developed with commercial, industrial, and residential buildings. The proposed project would not divide an existing community. There would be no impact.

NO IMPACT

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

The project site is in an urbanized area of San Marcos and is designated Commercial by both the General Plan and Municipal Code. The proposed development would be consistent with the City's General Plan and applicable land use policies.

Local Transportation Analysis

A local transportation analysis was prepared for the project by Linscott, Law and Greenspan (LLG) and the completed report is included as Appendix TIA. The purpose of this analysis was to evaluate the potential effects of the project to the local roadway system and to see if the project would be consistency with the City's level of service (LOS) standards as described in the Mobility Element of the City's General Plan. Section 17, Transportation, of this IS-MND analyzed the topics of 1) programs and policies related to transit, roadway, bicycles, and pedestrian facilities; 2) vehicle miles traveled; 3) hazards due to design features; and 4) emergency access.

The report analyzed potential traffic impacts from the project on seven intersections and five segments based upon the anticipated distribution of project traffic.

Intersections

- Twin Oaks Valley Road/Windy Way
- Windy Point Drave/Borden Road
- Twin Oaks Valley Road/Borden Road
- Woodward Street/Borden Road
- Twin Oaks Valley Road/Project Driveway
- Twin Oaks Valley Road/Richmar Avenue
- Twin Oaks Valley Road/San Marcos Boulevard

Segments

- Windy Point Drive to Twin Oaks Valley Road
- Twin Oaks Valley Road to Woodward Street
- Windy Way to Borden Road
- Borden Road to Richmar Avenue
- Richmar Avenue to San Marcos Boulevard

Existing Street Network

The principal roadways in the project study area are described briefly below. Roadway classification was determined from review of the City of San Marcos Mobility Element and information gathered from field observations.

- **North Twin Oaks Valley Road** is constructed as a 4-lane roadway between Windy Way and San Marcos Boulevard. Between Windy Way and Richmar Ave, it is constructed as a 4-lane undivided roadway with a TWLT lane. Between Richmar Avenue and San Marcos Boulevard, it is constructed as a 4-lane divided roadway. The posted speed limit is 45 mph. On-street parking is prohibited. Class II bike lanes are provided within the study area. N Twin Oaks Valley Road is classified as a 4-lane Arterial within the study area.
- **Borden Road** is constructed as a 4-lane roadway between Windy Point Drive and Woodward Street. Between Windy Point Drive and Woodward Street, it is constructed as a 4-lane divided roadway. The posted speed limit is 35-40 mph. On-street parking is prohibited. Class II bike lanes are provided within the study area. Borden Road is classified as a 4-lane Arterial within the study area.

Trip Generation

The “gasoline (with food mart and car wash)” trip rates from SANDAG’s *(Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002* were used to calculate the trip generation for the proposed project. Table 12 details the total project traffic generation.

Table 12 Project Trip Generation

Land Use	Trip Rate and Credits	ADT[1]	AM Peak Hour				PM Peak Hour			
			% of ADT	In:Out Split	Volume		% of ADT	In:Out Split	Volume	
					In	Out			In	Out
Gasoline (with food mart and car wash)	Trip Rate (155/vehicle fueling space)[2]	2,480	8%	50:50	100	100	9%	50:50	112	112
16 vehicle fueling spaces	Pass-By (28%)[3]	695			28	28			31	31
	Cumulative (72%)[4]	1,785			72	72			81	81

[1] Traffic volumes expressed in vehicles per day

[2] Per SANDAG, the trip rate for "gasoline with food mart and car wash" is 155/vehicle fueling space with AM splits at 8% of ADT with 50:50 (in:out). PM splits are 9% of ADT with 50:50 (in:out). The pass-by percentage per SANDAG is 28%. Rate is based on SANDAG's *(Not so) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2022*.

[3] Pass-By Trips – vehicles already on the street network diverting to the Project site

[4] Cumulative Trips – net new vehicles added to the street network.

Source: LLG 2021

As shown in Table 12, the project is calculated to generate 1,785 net new average daily trips with 72 inbound and 72 outbound net new trips during the AM peak hour and 81 inbound and 81 outbound net new trips during the PM peak hour.

Existing Intersection and Segment Operations

Table 13 summarizes the existing intersection operations. As shown, the study area intersections currently operate at an acceptable LOS (LOS D or better), except for Twins Oaks Valley Road at San Marcos Boulevard (LOS F during the AM and LOS E during the PM peak hours).

Table 13 Existing Intersection Operations

			Existing	
Intersection	**Control Type**	**Peak Hour**	**Delay[1]**	**LOS[2]**
Twin Oaks Valley Road/Windy Way	Signal	AM	10.0	A
		PM	8.2	A
Windy Point Drave/Borden Road	Signal	AM	13.4	B
		PM	13.3	B
Twin Oaks Valley Road/Borden Road	Signal	AM	48.8	D
		PM	46.5	D
Woodward Street/Borden Road	Signal	AM	28.6	C
		PM	29.7	C
Twin Oaks Valley Road/Project Driveway[3]	–	AM	–	–
		PM	–	–
Twin Oaks Valley Road/Richmar Avenue	Signal	AM	33.4	C
		PM	34.0	C
Twin Oaks Valley Road/San Marcos Boulevard	Signal	AM	106.5	F
		PM	57.8	E

[1] Average delay expressed in seconds per vehicle

[2] Level of Service

[3] Intersection does not exist under Existing conditions

Source: LLG 2021

Table 14 details the segment operations under existing conditions. As shown, the study segments are calculated to currently operate at LOS C or better.

Table 14 Existing Segment Operations

Street Segment	Classification	Capacity (LOS E)[1]	ADT[2]	LOS	V/C[3]
Borden Road					
Windy Point Drive to Twin Oaks Valley Road	4-Lane Secondary Arterial	30,000	13,881	B	0.463
Twin Oaks Valley Road to Woodward Street	4-Lane Secondary Arterial	30,000	11,821	B	0.394
Twin Oaks Valley Road					
Windy Way to Borden Road	4-Lane Major Arterial	40,000	19,290	B	0.482
Borden Road to Richmar Avenue	4-Lane Major Arterial	40,000	26,499	C	0.662
Richmar Avenue to San Marcos Boulevard	4-Lane Major Arterial	40,000	26,499	C	0.662

[1] Capacities based on the City of San Marcos' Urban Street Design Criteria

[2] Average Daily Traffic Volumes

[3] Volume to Capacity ratio

Source: LLG 2021

Interim Year Intersection and Segment Operations

The following presents the analysis of study area intersections and street segments under Interim Year conditions without and with the proposed project. Table 15 summarizes the intersection operations under the Interim Year with and without Project conditions. As shown, the study intersections are calculated to operate as LOS D or better, under both conditions, except for the intersection of Twin Oaks Valley Road at San Marcos Boulevard (LOS F during the AM and LOS E during the PM peak hours, under both conditions).

Table 16 summarizes the segment operations under the Interim Year with and without Project conditions. As shown, with the addition of project traffic, the study segments are calculated to continue operating at LOS D or better. Based on established LOS Standards, the project is not calculated to result in substantial effects to the study intersections or segments and therefore, no improvements are required.

Table 15 Interim Year Intersection Operations

Intersection	Control Type	Peak Hour	Interim Year Without Project		Interim Year With Project		Change[2]	Significant Effect?
			Delay[1]	LOS	Delay	LOS		
Twin Oaks Valley Road/Windy Way	Signal	AM	10.2	A	10.3	B	0.1	No
		PM	8.5	A	8.6	A	0.1	No
Windy Point Drave/Borden Road	Signal	AM	13.6	B	13.6	B	0.0	No
		PM	13.6	B	13.6	B	0.0	No
Twin Oaks Valley Road/Borden Road	Signal	AM	51.7	D	54.2	D	2.5	No
		PM	49.7	D	52.1	D	2.4	No
Woodward Street/Borden Road	Signal	AM	29.3	C	29.6	C	0.3	No
		PM	30.5	C	30.7	C	0.2	No
Twin Oaks Valley Road/Project Driveway	MSSC[3]	AM	–	–	19.2	C	–	No
		PM	–	–	27.7	D	–	No
Twin Oaks Valley Road/Richmar Avenue	Signal	AM	38.5	C	39.2	D	0.7	No
		PM	38.0	C	39.3	D	1.3	No
Twin Oaks Valley Road/San Marcos Boulevard	Signal	AM	120.4	F	122.1	F	1.7	No
		PM	58.8	E	59.9	E	1.1	No

[1] Average delay expressed in seconds per vehicle

[2] Denotes the increase in delay due to the Project

[3] MSSC = Minor Street Stop Controlled intersection. Worst-case movement approach delay and LOS reports. Intersection does not exist under "without Project" conditions

Source: LLG 2021

Table 16 Interim Year Segment Operations

Street Segment	Capacity (LOS E)[1]	Interim Year without Project			Interim Year with Project			Change[4]	Significant Effect?
		ADT[2]	LOS	V/C[3]	ADT	LOS	V/C[3]		
Borden Road									
Windy Point Drive to Twin Oaks Valley Road	30,000	14,612	C	0.487	14,882	C	0.496	0.009	No
Twin Oaks Valley Road to Woodward Street	30,000	12,320	B	0.411	12,590	B	0.420	0.009	No
Twin Oaks Valley Road									
Windy Way to Borden Road	40,000	21,595	C	0.54	22,305	C	0.558	0.018	No
Borden Road to Richmar Avenue	40,000	27,555	C	0.689	28,805	C	0.720	0.031	No
Richmar Avenue to San Marcos Boulevard	40,000	29,899	C	0.747	30,399	D	0.760	0.013	No

[1] Capacities based on the City of San Marcos' Urban Street Design Criteria

[2] Average Daily Traffic Volumes

[3] Volume to Capacity ratio

[4] Denotes a project-induced increase in the V/C ratio

Source: LLG 2021

Horizon Year Intersection and Segment Operations

To forecast future traffic volumes for Horizon Year (Year 2050) conditions, per the City's guidelines, the SANDAG Series 14 Model was utilized. The project traffic volumes were added onto the Horizon Year (Year 2050) Baseline scenario to develop Horizon Year (Year 2050) with Project traffic volumes. For the purposes of the analysis, no roadway network improvements were assumed.

Table 17 summarizes the intersection operations under the Horizon Year with and without Project conditions. As shown, the study intersections are calculated to operate as LOS D or better, except for the following intersections, under both conditions:

- Twin Oaks Valley Road / Borden Road (LOS E during the AM and PM peak hours)
- Twin Oaks Valley Road / Richmar Avenue (LOS E during the AM peak hour)
- Twin Oaks Valley Road / San Marcos Boulevard (LOS F during the AM and LOS E during the PM peak hours

Table 18 summarizes the segment operations under the Horizon Year with and without Project conditions. As shown, with the addition of project traffic, the study segments are calculated to continue operating at LOS D or better. Based on established LOS Standards, the project is not calculated to result in substantial effects to the study intersections or segments and therefore, no improvements are required.

Table 17 Horizon Year Intersection Operations

Intersection	Control Type	Peak Hour	Horizon Year Without Project		Horizon Year With Project		Change[2]	Significant Effect?
			Delay[1]	LOS	Delay	LOS		
Twin Oaks Valley Road/Windy Way	Signal	AM	11.8	B	12.0	B	0.2	No
		PM	9.3	A	9.5	A	0.2	No
Windy Point Drave/Borden Road	Signal	AM	14.9	B	14.9	B	0.0	No
		PM	15.1	B	15.1	B	0.0	No
Twin Oaks Valley Road/Borden Road	Signal	AM	59.9	E	61.7	E	1.8	No
		PM	55.5	E	56.7	E	1.2	No
Woodward Street/Borden Road	Signal	AM	32.7	C	33.2	C	0.5	No
		PM	33.1	C	33.4	C	0.3	No
Twin Oaks Valley Road/Project Driveway	MSSC[3]	AM	–	–	21.4	C	–	No
		PM	–	–	32.0	D	–	No
Twin Oaks Valley Road/Richmar Avenue	Signal	AM	58.1	E	59.9	E	1.8	No
		PM	53.7	D	54.4	D	0.7	No
Twin Oaks Valley Road/San Marcos Boulevard	Signal	AM	150.9	F	152.6	F	1.7	No
		PM	71.1	E	72.5	E	1.4	No

[1] Average delay expressed in seconds per vehicle

[2] Denotes the increase in delay due to the Project

[3] MSSC = Minor Street Stop Controlled intersection. Worst-case movement approach delay and LOS reports. Intersection does not exist under "without Project" conditions

Source: LLG 2021

Table 18 Horizon Year Segment Operations

Street Segment	Capacity (LOS E)[1]	Horizon Year without Project			Horizon Year with Project			Change[4]	Significant Effect?
		ADT[2]	LOS	V/C[3]	ADT	LOS	V/C[3]		
Borden Road									
Windy Point Drive to Twin Oaks Valley Road	30,000	16,020	C	0.534	16,290	C	0.543	0.009	No
Twin Oaks Valley Road to Woodward Street	30,000	12,320	B	0.411	12,590	B	0.420	0.009	No
Twin Oaks Valley Road									
Windy Way to Borden Road	40,000	24,850	C	0.621	25,560	C	0.639	0.081	No
Borden Road to Richmar Avenue	40,000	32,880	D	0.822	34,130	D	0.853	0.031	No
Richmar Avenue to San Marcos Boulevard	40,000	34,310	D	0.858	34,810	D	0.870	0.012	No

[1] Capacities based on the City of San Marcos' Urban Street Design Criteria

[2] Average Daily Traffic Volumes

[3] Volume to Capacity ratio

[4] Denotes a project-induced increase in the V/C ratio

Source: LLG 2021

The project would also comply with all applicable regulations in the City's municipal code. Therefore, there would be no impacts due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

NO IMPACT

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12 Mineral Resources

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

a. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b. Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

The project site and surrounding properties are in an urbanized area of San Marcos. San Marcos currently does not have active mines or quarries (City of San Marcos 2013). Pursuant to the California Surface Mining and Reclamation Act of 1975, the CGS classifies land through a mineral inventory process intended to ensure that important mineral deposits are identified and protected for future extraction. According to the San Marcos General Plan, the areas located north of State Route 78, such as the project site, are classified as Mineral Resource Zone (MRZ)-1 zone (City of San Marcos 2013). MRZ-1 zones are areas where adequate information indicates that no significant mineral deposits are present or where it is judged that little likelihood exists for their presence. Therefore, the project would not have an impact on any known mineral resource and no impact would occur.

NO IMPACT

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13 Noise

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

Rincon Consultants, Inc. prepared a Noise and Vibration Study to analyze the potential noise and vibration associated with the construction and operation of the proposed project. The results of the Noise and Vibration Study are used in the analysis in this section. The full report is included as Appendix NOI.

Overview of Sound

Noise is defined as unwanted sound. Noise level measurements include intensity, frequency, and duration, as well as time of occurrence. Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels to be consistent with that of human hearing response, which is most sensitive to frequencies around 4,000 Hertz (about the highest note on a piano) and less sensitive to low frequencies (below 100 Hertz).

Sound pressure level is measured on a logarithmic scale with the 0 dBA level based on the lowest detectable sound pressure level that people can perceive (an audible sound that is not zero sound pressure level). Based on the logarithmic scale, a doubling of sound energy is equivalent to an increase of 3 dBA, and a sound that is 10 dBA less than the ambient sound level has no effect on ambient noise. Because of the nature of the human ear, a sound must be about 10 dBA greater than the ambient noise level to be judged as twice as loud. In general, a 3 dBA change in the ambient noise level is noticeable, while 1-2 dBA changes generally are not perceived. Quiet suburban areas typically have noise levels in the range of 40-50 dBA, while areas adjacent to arterial streets are

typically in the 50-60+ dBA range. Normal conversational levels are usually in the 60-65 dBA range and ambient noise levels greater than 65 dBA can interrupt conversations.

Noise levels from point sources, such as those from individual pieces of machinery, typically attenuate (or drop off) at a rate of 6 dBA per doubling of distance from the noise source. Noise levels from lightly traveled roads typically attenuate at a rate of about 4.5 dBA per doubling of distance. Noise levels from heavily traveled roads typically attenuate at about 3 dBA per doubling of distance. Noise levels may also be reduced by intervening structures. Generally, a single row of buildings between the receptor and the noise source can reduces noise levels by about 5 dBA, while a solid wall or berm can reduce noise levels by 5 to 10 dBA (Federal Transit Administration [FTA] 2018). The manner in which homes in California are constructed generally provides a reduction of exterior-to-interior noise levels of approximately 20 to 25 dBA with closed windows (FTA 2018).

The duration of noise is important because sounds that occur over a long period of time are more likely to be an annoyance or cause direct physical damage or environmental stress. One of the most frequently used noise metrics that considers both duration and sound power level is the equivalent noise level (L_{eq}). The L_{eq} is defined as the single steady A-weighted level that is equivalent to the same amount of energy as that contained in the actual fluctuating levels over a period (essentially, the average noise level). Typically, L_{eq} is summed over a one-hour period. L_{max} is the highest RMS (root mean squared) sound pressure level within the measurement period, and L_{min} is the lowest RMS sound pressure level within the measurement period.

The time period in which noise occurs is also important since nighttime noise tends to disturb people more than daytime noise. Community noise is usually measured using the Day-Night Average Level (L_{dn}), which is the 24-hour average noise level with a 10-dBA penalty for noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours, or Community Noise Equivalent Level (CNEL), which is the 24-hour average noise level with a 5 dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. and a 10 dBA penalty for noise occurring from 10:00 p.m. to 7:00 a.m. The L_{dn} and CNEL typically do not differ by more than 1 dBA. In practice, CNEL and L_{dn} are often used interchangeably.

Some land uses are more sensitive to ambient noise levels than other uses due to the amount of noise exposure and the types of activities involved. For example, residences, motels, hotels, schools, libraries, churches, nursing homes, auditoriums, museums, cultural facilities, parks, and outdoor recreation areas are more sensitive to noise than commercial and industrial land uses.

Noise Regulations

City of San Marcos General Plan

The City General Plan Noise Element controls and abates environmental noise and protects the citizens of the City from excessive exposure to noise. The Noise Element specifies the maximum allowable unmitigated exterior noise levels for new developments impacted by transportation noise sources such as arterial roads, freeways, airports, and railroads. In addition, the Noise Element identifies several polices to minimize the impacts of excessive noise levels throughout the community (City of San Marcos 2013). As shown in Table 19, the Noise Element sets normally acceptable, conditionally acceptable, and generally unacceptable ambient noise levels for proposed developments based on land use.

Table 19 Noise and Land Use Compatibility Guidelines for Exterior Noise

Land Use Category	Exterior Noise Level (CNEL)		
	Normally Acceptable	Conditionally Acceptable	Conditionally Unacceptable
Residential – Single Family, mobile homes, senior/age-restricted housing	<60	60-75	>75
Residential – Multi-family, mixed use (residential/commercial)	<65	65-75	>75
Lodging – Hotels, motels	<65	65-75	>75
Schools, churches, hospitals, residential care facility, childcare facilities	<65	65-75	>75
Passive recreational parks, nature preserves, contemplative spaces, cemeteries	<65	65-75	>75
Active parks, golf courses, athletic fields, outdoor spectator sports, water recreation	<65	65-75	>75
Office/professional, government, medical/dental, commercial, retail, laboratories	<65	65-75	>75
Industrial, manufacturing, utilities, agriculture, mining, stables, ranching, warehouse, maintenance/repair	<65	>65	N/A

Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction measures necessary to achieve acceptable levels for land use. If a project cannot mitigate noise to a level deemed Acceptable, the appropriate County decision-maker must determine that mitigation has been provided to the greatest extent practicable or that extraordinary circumstances exist.

Unacceptable: New construction or development should generally not be undertaken.

Source: City of San Marcos 2013, Table 7-3 *Noise and Land Use Compatibility Guidelines for Transportation-related Noise*.

City of San Marcos Municipal Code

The SMMC sets forth the City's standards, guidelines, and procedures concerning the regulation of operational noise. Specifically, noise levels in San Marcos are regulated by SMMC Chapter 10.24.010, Noise Ordinance. These regulations are intended to implement the goals, objectives, and policies of the General Plan, protect the public health, safety, and welfare of San Marcos, and to control unnecessary excessive, and/or annoying noise in San Marcos.

SMMC Chapter 17.32.180 states that grading, extraction, and construction activities are allowed between 7:00 a.m. to 4:30 p.m., Monday through Friday. Grading, extraction, or construction activities are not permitted in San Marcos on weekends or holidays. The City's municipal code does not set noise limits on construction activities, although it has commonly utilized the County of San Diego's Noise Ordinance construction noise threshold of 75 dBA L_{eq} (8-hour), listed in Section 36.409 of the San Diego County Code of Regulatory Ordinances.

SMMC Chapter 20.300.070 (Performance Standards) establishes exterior noise standards, which require noise levels from sources maintain certain noise levels for single-family residences, multi-family, commercial uses, and industrial uses. Table 20 shows the allowable exterior noise levels.

Table 20 Exterior Noise Standards by Zone

Zone	Allowable Noise Level (dBA L_{eq}) Measured from the Property Line
Single-Family Residential (A, R-1, R-2)[1,2]	
7:00 a.m. to 10:00 p.m. (daytime)	60
10:00 p.m. to 7:00 a.m. (overnight)	50
Multifamily Residential (R-3)[1,2]	
7:00 a.m. to 10:00 p.m. (daytime)	65
10:00 p.m. to 7:00 a.m. (overnight)	55
Commercial (C, O-P, SR)[3]	
7:00 a.m. to 10:00 p.m. (daytime)	65
10:00 p.m. to 7:00 a.m. (overnight)	55
Industrial	
7:00 a.m. to 10:00 p.m. (daytime)	65
10:00 p.m. to 7:00 a.m. (overnight)	60

[1] For single-family detached dwelling units, the "exterior noise level" is defined as the noise level measured at an outdoor living area which adjoins and is on the same lot as the dwelling, and which contains at least the following minimum net lot area: (i) for lots less than 4,000 square feet in area, the exterior area shall include 400 square feet, (ii) for lots between 4,000 square feet to 10 acres in area, the exterior area shall include 10 percent of the lot area; (iii) for lots over 10 acres in area, the exterior area shall include 1 acre.

[2] For all other residential land uses, "exterior noise level" is defined as noise measured at exterior areas which are provided for private or group usable open space purposes. "Private Usable Open Space" is defined as usable open space intended for use of occupants of one dwelling unit, normally including yards, decks, and balconies. When the noise limit for Private Usable Open Space cannot be met, then a Group Usable Open Space that meets the exterior noise level standard shall be provided. "Group Usable Open Space" is defined as usable open space intended for common use by occupants of a development, either privately owned and maintained or dedicated to a public agency, normally including swimming pools, recreation courts, patios, open landscaped areas, and greenbelts with pedestrian walkways and equestrian and bicycle trails, but not including off-street parking and loading areas or driveways.

[3] For non-residential noise sensitive land uses, exterior noise level is defined as noise measured at the exterior area provided for public use.

Source: SMMC Table 20.300-4

Overview of Groundborne Vibration

Vibration is a unique form of noise because its energy is carried through buildings, structures, and the ground, whereas sound is simply carried through the air. Thus, vibration is generally felt rather than heard. Some vibration effects can be caused by noise (e.g., the rattling of windows from passing trucks). This phenomenon is caused by the coupling of the acoustic energy at frequencies that are close to the resonant frequency of the material being vibrated. Typically, ground-borne vibration generated by man-made activities attenuates rapidly as distance from the source of the vibration increases. Vibration amplitudes are usually expressed in peak particle velocity (PPV) or root mean squared (RMS) vibration velocity. The PPV and RMS velocity are normally described in inches per second (in/sec). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings (Caltrans 2020).

Vibration limits used in this analysis to determine a potential impact to local land uses from construction activities, such as blasting, pile-driving, vibratory compaction, demolition, drilling, or excavation, are based on information contained in Caltrans' *Vibration Guidance Manual* and the FTA *Transit Noise and Vibration Impact Assessment Manual* (Caltrans 2020; FTA 2018).

Based on AASHTO recommendations, limiting vibration levels to below 0.2 PPV in/sec at residential structures would prevent structural damage regardless of building construction type. Additionally, AASHTO recommendations indicate that the vibration level threshold at which transient vibration sources (such as construction equipment) are distinctly perceptible is 0.24 in/sec PPV. This analysis uses the distinctly perceptible threshold for purposes of assessing vibration impacts. Although groundborne vibration is sometimes noticeable in outdoor environments, groundborne vibration is almost never annoying to people who are outdoors. Therefore, the vibration level threshold for human perception is assessed at occupied structures (FTA 2018). Therefore, all vibration impacts are assessed at the structure of an affected property.

Existing Noise Environment

The most common source of noise in the project site vicinity is vehicular traffic from Twin Oaks Valley Road and Borden Road. To characterize ambient sound levels at and near the project site, two 15-minute sound level measurements were conducted on July 2, 2020. Noise Measurement (NM) 1 was taken at the northern edge of the project site to capture noise levels from Borden Road. NM2 was taken at the western edge to capture ambient noise levels from Twin Oaks Valley Road, the busiest street in the area. Twin Oaks Valley Road traffic, especially from trucks, could also be heard during NM1. Table 21 summarizes the sound level measurement results, and Table 22 shows the recorded traffic volumes during the sound level monitoring.

Table 21 Sound Level Measurement Results

Measurement Location	Roadway	Sample Times	Approximate Distance to Primary Noise Source	L_{eq} (dBA)	L_{min} (dBA)	L_{max} (dBA)
NM1	Borden Road	10:38 a.m. – 10:53 a.m.	40 feet from Borden Road centerline	62	49	74
NM2	Twin Oaks Valley Road	11:00 a.m. – 11:15 a.m.	50 feet from Twin Oaks Valley Road centerline	66	48	82

Detailed sound level measurement data are included in Appendix A.

Table 22 Sound Level Monitoring Traffic Counts

Measurement Location	Roadway	Traffic	Autos	Medium Trucks	Heavy Trucks
NM1	Borden Road	15-minute count	76	2	1
		One-hour equivalent	304	8	4
		Percentage	**96**	**3**	**1**
NM2	Twin Oaks Valley Road	15-minute count	235	9	6
		One-hour equivalent	940	36	24
		Percentage	**94**	**4**	**2**

The site measurements were conducted during statewide “Shelter-In-Place” Executive Order N-33-20 (issued March 19,2020) by Governor Gavin Newsom, in response to the global novel coronavirus pandemic. Due to this response, many businesses and schools were closed at the time noise measurements were collected, and the number of vehicles on the local roadways may have been less than typical conditions. Therefore, measured noise levels may have been lower than under typical conditions.

a. Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Construction

Project construction would occur nearest to the industrial area south of the project site. Over the course of a typical construction day, construction equipment would be located as close as 25 feet to adjacent property (e.g., the industrial use to the south) but would typically be located at an average distance farther away due to the nature of construction and the lot size of the project. Therefore, it is assumed that over the course of a typical construction day the construction equipment would operate at an average distance of 150 feet from the nearest property.

As detailed in the project Noise and Vibration Study (see Appendix NOI), construction noise was estimated using reference noise levels from the FHWA Roadway Construction Noise Model (RCNM) (FHWA 2006). Due to the size of the project site, a conservative construction scenario including simultaneous operation of a dozer and a front-end loader working during grading to excavate and move soil was analyzed. At 150 feet, a front-end loader and a dozer would generate a noise level of 70 dBA L_{eq}. The City's municipal code does not set noise limits on construction activities, although it has commonly utilized the County of San Diego's Noise Ordinance construction noise threshold of 75 dBA. Construction noise levels would be below the County of San Diego's threshold of 75 dBA L_{eq} (8-hour) for construction activity. In addition, construction would not occur outside the Municipal Code allowed hours of 7:00 a.m. and 4:30 p.m., Monday through Friday. Therefore, impacts from construction equipment would be less than significant.

Operation

The proposed gas station, car wash, and convenience store would be a new source of noise sources that may be audible at adjacent properties, which are developed with commercial, industrial, and residential uses. People periodically may be subject to noise from stationary noise from HVAC, car wash blowers, an air and water system, and increased traffic noise from project vehicles. The car wash equipment room would also include a T3 Direct Drive Vacuum Producer. Per applicant provided information, the vacuum producer will be enclosed in the car wash equipment room and will not generate audible exterior noise. Therefore, this equipment is not discussed further.

Noise from on-site noise sources were modeled in SoundPLAN, Version 8.2 using algorithms from ISO Standard 9613-2, "Attenuation of Sound during Propagation Outdoors, Part 2: General Method of Calculation" (see Appendix NOI). Based on manufacturer's specifications the car wash blowers, Macneil Tech 21 15HP blowers, were modeled with sound power levels which correspond to a sound pressure level of 94 dBA at the car wash exit, with blowers periodically operating during the anticipated hours of 7:00 a.m. to 8:00 p.m. The heating, ventilation, and cooling system design has not been finalized. Based on the building area, two representative units with a sound power level of 79 dBA was modeled running continuously under full load at the center of the rooftop. Additionally, noise for the air and water station was based on the Euclid-Hazard 7-Eleven Service Stations Noise Impact Analysis prepared by Vista Environmental, which measured an air water machine at approximately 66.9 dBA at 5 feet (Vista Environmental 2019 Noise levels at modeled receivers at adjacent properties are shown in Table 23 and noise levels would not exceed San Marcos noise limits. Noise level contours at adjacent properties are displayed in Figure 4. Furthermore, the noise levels modeled from on-site sources of up to 44 dBA L_{eq} are much lower than the measured existing ambient noise levels of 62 to 66 dBA L_{eq}, which would result in project's operation noise

contributing a negligible amount of the existing noise setting. Therefore, noise levels from project operation would result in less than significant impacts.

Table 23 Operational Noise Levels at Off-site Receivers

Receiver	Description	Daytime Noise Level (dBA)[2]	Exceed Daytime Thresholds?[3]	Nighttime Noise Level (dBA)[2]	Exceed Nighttime Thresholds?[3]
OFF-1	Senior Housing (multi-family)	43	No	30	No
OFF-2	Senior Housing (multi-family)	42	No	31	No
OFF-3	Industrial	39	No	35	No
OFF-4	Industrial	37	No	28	No
OFF-5	Industrial	37	No	29	No
OFF-6	Industrial	44	No	36	No
OFF-7	Industrial	37	No	29	No
OFF-8	Industrial	22	No	21	No
OFF-9	Single-Family Residence	36	No	26	No
OFF-10	Single-Family Residence	35	No	24	No
OFF-11	Single-Family Residence	29	No	22	No
OFF-12	Single-Family Residence	32	No	21	No
OFF-13	Industrial	44	No	30	No
OFF-14	Commercial/Industrial	39	No	31	No
OFF-15[1]	Potential Multi-family Residence	38	No	25	No
OFF-16	Single-Family Residence	27	No	16	No
OFF-17	Single-Family Residence	31	No	17	No
OFF-18	Single-Family Residence	30	No	18	No
OFF-19	Single-Family Residence	33	No	18	No
OFF-20	Single-Family Residence	21	No	13	No
OFF-21	Single-Family Residence	18	No	12	No
OFF-22	Single-Family Residence	19	No	13	No
OFF-23	Single-Family Residence	19	No	12	No
OFF-24	Single-Family Residence	19	No	12	No
OFF-25	Single-Family Residence	19	No	11	No
OFF-26	Senior Housing (multi-family)	43	No	29	No

[1] Receiver placed in open space due to zoning code of SPA FSPA for anticipated senior housing (City of San Marcos 2012).

[2] Car wash blowers are anticipated to operate between the hours of 7:00 a.m. to 8:00 p.m. per client and are therefore only analyzed during the daytime. HVAC noise levels are analyzed during the daytime and nighttime hours.

[3]For multi-family and commercial use, the applicable exterior threshold is 65 dBA L_{eq} from 7:00 a.m. to 10:00 p.m. and 55 dBA L_{eq} from 10:00 p.m. to 7:00 a.m. For single family use, the applicable exterior threshold is 60 dBA L_{eq} from 7:00 a.m. to 10:00 p.m. and 50 dBA L_{eq} from 10:00 p.m. to 7:00 a.m. For industrial use, the applicable exterior threshold is 65 dBA L_{eq} from 7:00 a.m. to 10:00 p.m. and 55 dBA L_{eq} from 10:00 p.m. to 7:00 a.m.

Figure 4 Off-site Receivers and Operational Noise Contours

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Off-site Traffic Noise

The proposed project would generate new vehicle trips that would increase noise levels on nearby roadways. Trip generation for the project was estimated based on rates from SANDAG's (Not so) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, which indicates that a convenience store with fuel pumps and a car wash typical generates 155 vehicle trips per fueling space per day (16 spaces equates to 2,480 total trips per day [average daily trips or ADT]) (SANDAG 2002). To be conservative, it was assumed that the proposed project would result in 2,480 ADT on both Borden Road and Twin Oaks Valley Road. This would result in traffic increases on Borden Road from Woodward Street to Twin Oaks Valley Road, Twin Oaks Valley Road from La Cienega Road to Borden Road, and Twin Oaks Valley Road from Borden Road to San Marcos Boulevard of 21 percent, 13 percent, and 9 percent, respectively. This would result in approximate noise level increases of 0.8 dBA, 0.5 dBA, and 0.4 dBA, respectively. Therefore, the project's traffic noise increase would not exceed 3 dBA or more, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Construction activities known to generate excessive ground-borne vibration, such as pile driving, would not be needed for the project. The greatest anticipated source of vibration during general project construction activities would be from a dozer, which may be used within 20 feet of the nearest commercial buildings to the south when accounting for setbacks. A dozer would create approximately 0.089 in/sec PPV at 25 feet (Caltrans 2020). This would be lower than what is considered a distinctly perceptible impact for humans of 0.24 in/sec PPV and the structural damage impact to residential structures[9] of 0.2 in/sec PPV. Therefore, although a dozer may be perceptible to nearby human receptors, temporary impacts associated with the dozer (and other potential equipment) would be less than significant.

Operation of the project would not include any substantial vibration sources. Therefore, operational vibration impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The airport nearest to the project site, the McClellan-Palomar Airport, is located approximately 6.4 miles to the southwest. The project would not be located within the noise contours of the airport (San Diego County Airport Land Use Commission [ALUC] 2011). Therefore, no substantial noise exposure from airport noise would occur to construction workers, users, or employees of the project, and no impacts would occur.

NO IMPACT

[9] For this analysis, this threshold applies to the nearest commercial and industrial structures, located approximately 30 feet to the south. The nearest residential structures are the Royal Oaks Senior Apartments, located approximately 200 feet to the east, and single-family residences, located approximately 430 feet to the southwest.

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14 Population and Housing

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

a. Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

The proposed project includes the development of a fuel station, convenience store, and automated car wash. The project would not include housing, and therefore would not directly contribute to population growth within San Marcos. Furthermore, the proposed project would result in a nominal increase in employment. The SANDAG 2050 RTP/SCS forecasts that San Marcos will have 61,604 jobs by the year 2050, an increase of 24,221 from the number of jobs in 2008 (SANDAG 2011). Based upon similar projects, the project would anticipate having seven employees. The new jobs generated by the proposed project would represent approximately 0.03 percent of the anticipated growth in employment in San Marcos. Therefore, the project would not cause a substantial direct or indirect increase in population or induce unplanned population growth. There would be no impact.

NO IMPACT

b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

The project site is vacant, and no existing housing is located on the project site. The proposed project would not displace existing housing or people and would not necessitate the construction of replacement housing elsewhere. No impact would occur.

NO IMPACT

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15 Public Services

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
1 Fire protection?	☐	■	☐	☐
2 Police protection?	☐	■	☐	☐
3 Schools?	☐	☐	☐	■
4 Parks?	☐	☐	☐	■
5 Other public facilities?	☐	☐	☐	■

a.1. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

The San Marcos Fire Department (SMFD) responds to a 33 square mile area inclusive of about 95,000 existing residents. SMFD has an ISO Rating 1 and currently operates four Fire Stations, four Paramedic assessment engine companies, one Paramedic assessment truck company, five 24-hour Paramedic transport ambulances, one Shift Battalion Chief, and one on-call duty Chief (City of San Marcos 2020a). The project site is located approximately 0.7 mile north (driving distance) of the San Marcos Fire Station No. 1, which would likely be the station serving the proposed project site in an emergency. The proposed project would develop a new fuel station, convenience store, and automated car wash on a previously vacant site. As identified in Chapter 17.64 of the SMMC, the City of San Marcos has adopted the 2019 California Fire Code. The Fire Code contains regulations related to construction, maintenance and design of buildings and land uses. The project would be required to adhere to all Fire Code requirements.

In addition, the applicant would be required to submit and annex to the applicable Community Facilities District or pay an in-lieu fee due to the proposed new development. Property owners within Community Facilities Districts are taxed annually for their share to finance local public

facilities and services. As the development of this project would contribute to the incremental increase in demand for fire protection services City-wide, Mitigation Measure PS-1 is required.

Mitigation Measures

PS-1 Community Facility District Fee - Fire

Prior to the issuance of a grading permit, the applicant/developer/property owner shall submit an executed version of petition to annex into and establish, the respect to the property , the special taxed levied by the following Community Facility District: CFD 2001-01 (Fire and Paramedic).

Significance After Implementation of Mitigation

Implementation of Mitigation Measure PS-1 would reduce impacts to fire protection services to less than significant levels.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

a.2. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, or the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

The City of San Marcos partners with the San Diego County Sheriff's Department to provide law enforcement and police services. The nearest police station is the San Diego County Sheriff's station located at 182 Santar Place, approximately 2 miles (driving distance) southeast from the project site. The San Diego County Sheriff's San Marcos Station serves about 100 square miles. Residents are served by a staff of over 100 sheriff's deputies, volunteers, and professional staff members (San Diego County Sheriff's Department 2020). As discussed in Section 14, *Population and Housing*, the project would not result in a substantial increase in population or employment in the City, and therefore would not cause substantially delayed response times or degraded service ratios or necessitate construction of new facilities. The project is also located in a developed area that is already served and patrolled by the Sheriff. However, since the development of this project would contribute to the incremental increase in demand for police protection services City-wide, Mitigation Measure PS-2 is required.

Mitigation Measures

PS-2 Community Facility District Fee - Police

Prior to the issuance of a grading permit, the applicant/developer/property owner shall submit an executed version of petition to annex into and establish, the respect to the property , the special taxed levied by the following Community Facility District: CFD 98-01, Improvement Area No. 1 (Police).

Significance After Implementation of Mitigation

Implementation of Mitigation Measure PS-2 would reduce impacts to police protection services to less than significant levels.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

a.3. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered schools, or the need for new or physically altered schools, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

The San Marcos Unified School District provides facilities serving grade levels elementary through high school (San Marcos Unified School District 2020). The proposed project would involve the construction of a fuel station, convenience store, and automated car wash on a vacant lot. The project would not involve new residential development. Likewise, the project would not generate substantial numbers of new employees within the City that could lead to unanticipated population growth. Therefore, the project would not result in a substantial number of additional students in the school district or the need for new or physically altered school facilities. There would be no impact.

NO IMPACT

a.4. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered parks, public facilities, or the need for new or physically altered parks, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

The 2013 San Marcos General Plan sets a parkland standard of 5 acres per 1,000 residents. The City currently provides approximately 270 acres of developed parkland for 97,209 residents. The closest parks to the project site are Buelow Park (0.6 mile away, 1.9 acres), Connors Park (0.9 mile away, 3.63 acres) and Hollandia Park (one mile away, 30 acres). The 2013 City of San Marcos General Plan: Parks, Recreation, and Community Health Element describes 75 acres of future Community Park space, 2 acres of future Neighborhood Park space, 21 acres of future Mini-Park space, and 17 acres of future trails around San Marcos. Approximately 357.79 acres of general future parkland has been allotted through the Planning Department to create a total of 697.84 acres of parkland in the City of San Marcos (City of San Marcos 2013).

The proposed project involves the development of a vacant lot into a fuel station, convenience store, and automated car wash and would not generate new permanent residents. According to the Department of Finance, there are an estimated 97,209 residents in the city of San Marcos (Department of Finance 2020). With the 270 acres of parkland located in the city, there are approximately 2.78 acres of parkland per 1,000 residents. Although the existing parkland alone does not satisfy the City standard, the total planned and existing parkland of 697.8 acres would satisfy the City's standard of 5 acres per 1,000 residents and would provide enough parkland to eventually accommodate up to 139,560 residents. The nominal increase in employees for the convenience store would not be anticipated to affect the ratio of acres of parkland per resident or necessitate the provision of new or physical altered parks in order to maintain acceptable service ratios. Thus, the project would not contribute to population growth that would result in adverse physical impacts to parks or require the provision of new parks. There would be no impact.

NO IMPACT

a.5. Would the project result in substantial adverse physical impacts associated with the provision of other new or physically altered public facilities, or the need for new or physically altered public facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

The nearest library to the proposed project is the San Marcos Branch of the San Diego County Library system, which is located at 2 Civic Center Drive (approximately 0.65 mile away). San Marcos residents can also use the California State University San Marcos Library and the Palomar Community College Library for additional resources. The proposed project includes the development of a fuel station, convenience store, and automated car wash and would not result in the addition of new permanent residents. The nominal increase in employees as a result of the convenience store would not require the construction or expansion of new library facilities. Additionally, the City of San Marcos Public Works Department handles the operations and maintenance of public parks, streets, traffic signals, and stormwater management initiatives (City of San Marcos 2020b). The project would not require the construction of public roads, parks, or libraries. There would be no impact.

NO IMPACT

16 Recreation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	■
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	■

a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

As discussed under Section 15, *Public Services*, recreational amenities in the City of San Marcos include approximately 270 acres of parkland (City of San Marcos 2013). Although the City does not currently meet the desired standard of 5 acres of parkland per 1,000 residents as stated in the General Plan, the City has adopted plans to expand parkland area to a total of 697.84 acres (City of San Marcos 2013).

As discussed above in Section 14, *Population and Housing*, and Section 15, *Public Services*, the project would not substantially increase the number of residents or employees in the area. Because residents can easily access open space and recreational opportunities in the city and because the project would not substantially increase the number of permanent residents in the city, the project would not create unanticipated demand on city parks or cause substantial deterioration of existing parks such that new park facilities would be needed. There would be no impact.

NO IMPACT

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17 Transportation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	■
b. Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	☐	☐	■	☐
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?	☐	☐	■	☐
d. Result in inadequate emergency access?	☐	☐	☐	■

Regulatory Setting

Senate Bill 743 and Vehicle Miles Traveled

Senate Bill 743 (SB 743) was signed into law by Governor Brown in 2013 and tasked the State Office of Planning and Research with establishing new criteria for determining the significance of transportation impacts under CEQA. SB 743 requires the new criteria to "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." It also states that alternative measures of transportation impacts may include "vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated."

SB 743 implements changes to the method for performing transportation impact analyses under CEQA. SB 743 requires the Governor's Office of Planning and Research to identify new metrics for identifying and mitigating transportation impacts within CEQA. In January 2018, Office of Planning and Research 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 projects under CEQA, recognizing that roadway congestion, while an inconvenience to drivers, is not itself an environmental impact (PRC Section 21099 (b)(2)). 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 (LOS), with VMT as the basis for determining significant impacts, unless the guidelines provide specific exceptions.

City of San Marcos

CEQA Guidelines Section 15064.3(b) indicates that land use projects would have a significant impact if the project resulted in VMT exceeding an applicable threshold of significance. In November 2020, the City adopted Transportation Impact Analysis Guidelines, which established the following thresholds (City of San Marcos 2020c):

- Residential Uses: A significant impact will occur if the project generates VMT per resident exceeding a level of 15 percent below the countywide average.
- Employment Projects: A significant impact will occur if the project generates VMT per employee exceeding a level of 15 percent below the countywide average.
- Retail Uses: A significant impact will occur if the project would result in a net increase in total citywide VMT.

In addition, the guidelines establish several screening approaches that can be used to quickly identify when a project should be expected to cause a less-than-significant impact related to VMT without the need to complete a detailed VMT analysis. Projects which do not require detailed VMT analysis include small projects consistent with the General Plan, affordable housing projects in smart growth opportunity areas, local-serving retail or public facilities, certain projects in high quality transit areas, and certain projects in low VMT areas.

a. Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

In December 2019 California's Third District Court of Appeal ruled that under SB 743, automobile delay may no longer be treated as a significant impact in CEQA analysis (Citizens for Positive Growth & Preservation v. City of Sacramento). Because significance of traffic-related impacts can no longer be based on LOS, impacts related to consistency with roadway programs, plans, ordinance, are policies (such as LOS standards) facilities are not addressed in this analysis section. Rather, a discussion of LOS standards compliance has been included in Section 11, *Land Use and Planning*.

Local circulation system plans adopted by the City include the City's General Plan Mobility Element, Bicycle and Pedestrian Master Plan, and the Master Trail Plan. Transit service in the project area is provided by North County Transit District.

Consistency with Pedestrian Plans, Policies, and Programs

The segment of Borden Road adjacent to the project site is improved with continuous soft-surface sidewalks along the southern-side (project-side) and the segment of North Twin Oaks Valley Road adjacent to the project site has non-continuous sidewalks that do not extend south of the project site.

Consistent with General Plan Policy M-1.2, the project includes improvements that would extend the sidewalk along North Twin Oaks Valley Road to the southern property line. As the project would include public right-of-way improvements consistent with General Plan policies, the project would not conflict with plans, programs, and policies regarding pedestrian facilities, or decrease the performance and safety of such facilities.

Consistency with Bicycle Plans, Policies, and Programs

The segment of Borden Road adjacent to the project site is improved with Class II bicycle facilities (bicycle lanes) and the segment of North Twin Oaks Valley Road adjacent to the project site is also improved with Class II bicycle facilities (bicycle lanes).

As shown in Figure 15b of the Bicycle and Pedestrian Master Plan, proposed Tier 2 future improvements in the vicinity of the project site include the extension of the Class I bicycle facility (bicycle path) on the east side of North Twin Oaks Valley Road (City of San Marcos 2015). The facility currently transitions to a Class II bicycle facility (bicycle lane) approximately 0.2 mile north of Borden Road; as proposed, the facility would be extended to Borden Road.

No bicycle facility improvements are planned adjacent to the project site. Public right-of-way improvements along North Twin Oaks Valley Road would maintain the existing Class II bicycle facility (bicycle lane). The project would not conflict with plans, programs, and policies regarding pedestrian facilities, or decrease the performance and safety of such facilities.

Consistency with Transit Plans, Policies, and Programs

There are no transit stops along North Twin Oaks Valley Road or Borden Road. The nearest transit stops are a bus stop for the Breeze Route 305 and the San Marcos Civic Center light-rail transit stop for the Sprinter. Both stops are approximately 0.5-mile south of the project site at the intersection of Mission Road and Woodward Street.

As the project is not proximate to local transit routes, the project would not substantially increase traffic levels at intersections serving local transit routes or degrade access to bus stops. Therefore, implementation of the project would not conflict with plans, programs, and policies regarding transit facilities, or decrease the performance and safety of such facilities.

NO IMPACT

b. Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

The City's Transportation Impact Analysis Guidelines (November 2020) establish screening approaches to identify when a project should be expected to cause a less-than-significant impact related to VMT without the need to complete a detailed VMT analysis. Projects which do not require detailed VMT analysis include small projects that are consistent with the General Plan, affordable housing projects in smart growth opportunity areas, local-serving retail or public facilities, certain projects in high quality transit areas, and certain projects in low VMT areas.

The City's screening criterion for local-serving retail is applicable to retail projects that are 50,000 sf gross floor area or less. As discussed in City's Transportation Impact Analysis Guidelines, examples of local-serving retail include "shopping centers as well as standalone uses such as commercial shops, gas stations, and restaurants" (City of San Marcos 2020c).

Linscott, Law & Greenspan, Engineers prepared a Transportation Impact Analysis in January 2021 (see Appendix TIA), and found the project is screened out from a detailed VMT analysis using the screening criteria outlined in the City's guidelines since it meets the criteria of being a locally serving retail facility with the total project land use density less than 50,000 sf of gross floor area.

The project proposes development of a gas station. The proposed use would be local-serving retail. Consistent with the City's Transportation Impact Analysis Guidelines, the project would be presumed to have a less than significant transportation impact.

LESS THAN SIGNIFICANT IMPACT

c. 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)?

The project site would take access at one right-in-right-out driveway along North Twin Oaks Valley Road. Design of driveways, circulation areas, and parking stalls for the proposed project would be consistent with all applicable street design specifications as published in the City Engineering Divisions most-recent Improvement Design Standards (City of San Marcos 2020c).

It is not anticipated that traffic hazards would increase because of the project, as the completion to the public right-of-way would be to current standards. In accordance with these standards, the project conditions of approval would require the painting of "KEEP CLEAR" striping to be included at the project driveway for motorists making a left turn onto Twin Oaks Valley Road. Additionally, the project is compatible with other commercial uses to the north and south along North Twin Oaks Valley Road. Therefore, potential impacts associated with a substantial increase in hazards due to a design feature or incompatible use would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project result in inadequate emergency access?

Site access for the project would be provided via North Twin Oaks Valley Road. The proposed project would be required to comply with all building, fire, and safety codes and specific development plans would be subject to review and approval by the City's Public Works Department and the San Marcos Fire Department. Required review by these departments would ensure the circulation system for the project site would provide adequate emergency access. In addition, project construction would not require roadway closures that would impair emergency response or evacuation. There would be no impact.

NO IMPACT

18 Tribal Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a Public Resources Code Section 21074 as either a site, feature, place, or 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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	■	☐	☐

As of July 1, 2015, California Assembly Bill 52 of 2014 (AB 52) was enacted and expands 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). It is further stated that the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource, when feasible (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 is:

1. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k), or
2. 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 these criteria, the lead agency shall consider the significance of the resource to a California Native American tribe.

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. Under AB 52, lead agencies are required to "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 within the jurisdiction of the lead agency.

a. *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)?*

b. *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 (c) of Public Resources Code Section 5024.1?*

The project site is undeveloped and, as discussed in Section 5, *Cultural Resources*, there is potential for the project to impact unidentified cultural resources. On January 28, 2021, the City mailed consultation letters to 27 tribal representatives and interested parties. To date, the City of San Marcos has received 3 requests for consultation for the proposed project pursuant to Assembly Bill (AB) 52, including from the San Luis Rey Band of Mission Indians, the Rincon Band of Luiseño Indians, and the Pechanga Band of Luiseño Indians.

There are no known tribal cultural resources at the project site. However, the potential for previously undiscovered tribal cultural resources to be uncovered during ground-disturbing activities, while unlikely, cannot be completely ruled out. If such resources are found and are determined to be significant under PRC Section 5024.1, the project could result in significant impacts to such resources if they are disturbed, destroyed, or otherwise improperly treated. Impacts would be less than significant with mitigation incorporated.

Mitigation Measures

Mitigation Measures CR-1 through CR-3 would ensure that any subterranean tribal cultural resources encountered during construction activities for the proposed project are properly handled and treated.

Significance After Implementation of Mitigation

Implementation of Mitigation Measures CR-1 through CR-3 would reduce impacts to unknown tribal cultural resources to less than significant levels.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

19 Utilities and Service Systems

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

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

Water Facilities

New potable lateral extensions, valves, and other appurtenances would be necessary to serve the proposed fuel station, convenience store, car wash, and landscaping. Such improvements would be installed during project construction and on or immediately adjacent to the project site; therefore, the construction or relocation of these facilities would not increase the project's disturbance area.

VWD water treatment facilities or distribution main line improvements would not be necessary to serve the project site. Therefore, impacts with respect to new or expanded water facilities would be less than significant.

Wastewater Facilities

The project site would be served by existing VWD sewer lines. Sewer line extensions would be necessary to connect the proposed buildings to existing facilities along Twin Oaks Valley Road and Borden Road which would be installed during project construction.

The project would result in an increase in wastewater generation relative to existing site conditions. The majority of wastewater generated in the City of San Marcos is diverted to the Meadowlark Water Reclamation Facility (MRF) which has a capacity of five million gallons per day (MGD) (VWD 2018). As shown in Table 24, the project would generate approximately 7,335 gallons/day, or approximately 0.007 MGD. Table 25 summarizes the available capacity at the MRF and the percentage used by anticipated project wastewater generation.

Table 24 Estimated Wastewater Generation

Land Use	Total* (gallons/year)	Total (gallons/day)
Car Wash	2,104,000	5,764
Convenience Market (24 Hours)	573,465	1,571
Total	2,677,465	7,335

* Rates from CalEEMod

Table 25 Wastewater Treatment Plant Capacity

	Meadowlark Water Reclamation Facility
Average Daily Treatment	0.7 MGD
Permitted Capacity	5.0 MGD
Available Capacity	4.3 MGD
Project Wastewater Generation	0.007 MGD
Percent of Available Capacity Used by Project	0.16 percent

MGD = million gallons per day

Sources: VWD 2018

As shown in Table 25, wastewater treatment facilities operated by VWD possess sufficient capacity to process additional wastewater generated by the project. The project proponent would construct on-site wastewater treatment pipe connections and pay standard sewer connection fees to the City of San Marcos and VWD. No construction or expansion of wastewater facilities would be necessary to serve the project. Consequently, impacts with respect to wastewater treatment facilities would be less than significant.

Stormwater Facilities

As discussed in Section 10, *Hydrology and Water Quality*, the project would implement site design BMPs to capture, filter, evaporate, detain, and/or infiltrate runoff within the development area. As part of the project's final design review, the project proponent would submit a Stormwater

Management Plan and a SWPPP to the City demonstrating adequate stormwater discharge mitigation using a bio-filtration basin, capture and controlled release tanks, or other BMPs. Such BMPs would slow the velocity of water, thereby minimizing the potential for exceedances of stormwater drainage system capacity. Given that stormwater conveyance and storage facilities would be constructed to capture on-site runoff, impacts related to new or expanded stormwater facilities would be less than significant.

Electric Power & Natural Gas

Electrical power service to the project site would be provided by SDG&E, which maintains substations and transmission lines throughout the County. The project will not use natural gas. The project site is currently served by existing electricity infrastructure. As discussed in Section 6, *Energy*, the project would involve an increase in electricity demand to serve the project; however, this demand increase would not be anticipated to require additional electricity substations. Impacts with respect to new or expanded electric power facilities would be less than significant.

Telecommunications

The project would not involve any components requiring telecommunications infrastructure and would not involve the relocation of existing telecommunications facilities. Therefore, no impact related to telecommunications facilities would occur.

Because the project site would be served by existing water, wastewater, electric, natural gas, and telecommunication facilities, construction or relocation of additional facilities would not be necessary and effects would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

The project site is served by VWD, which provides water to approximately 94,000 customers in a 45-square mile service area (VWD 2015). VWD currently obtains 100 percent of its potable water supply from the San Diego County Water Authority (SDCWA), which obtains most of its water via the State Water Project and the Colorado River Aqueduct. Recently, VWD has increased its portfolio to include at least 1,140 million gallons of desalinization water from SDCWA and 120 million gallons to be supplied to existing reservoirs. These additional water supply sources originate indirectly from SDCWA.

VWD provided an average 11.1 million MGD of potable water to residential, commercial, light industrial, landscaping, and agriculture uses in 2015, with a total water demand for the year of 4,349 million gallons. This amount was a reduction from the water demand in 2010, which was 5,315 million gallons, due to mandatory water use restrictions. The projected annual water use was estimated in 5 year increments up to 2035, which is expected to be 10,644 million gallons in 2020 and up to 12,330 million gallons in 2035. VWD estimated the available supply and demands in normal years, single dry years, and multiple dry years as required. If water demands develop as projected in the Master Plan, there is a projected shortfall of supplies in each of the categories as shown in Table 26, Table 27, and Table 28 (VWD 2015).

Table 26 Normal Year Supply and Demand

	2020	2025	2030	2035
Supply Totals	6,914	8,011	8,794	9,198
Demand Totals	10,644	11,187	11,569	12,330
Difference	(3,730)	(3,176)	(2,775)	(3,132)

Units in million gallons
Source: VWD Urban Water Management Plan, 2015

Table 27 Single Dry Year Supply and Demand

	2020	2025	2030	2035
Supply Totals	7,362	8,539	9,359	9,799
Demand Totals	11,399	11,985	12,398	13,225
Difference	(4,037)	(3,446)	(3,039)	(3,462)

Units in million gallons
Source: VWD Urban Water Management Plan, 2015

Table 28 Multiple Dry Years Supply and Demand

		2020	2025	2030	2035
First Year	Supply Totals	7,359	8,533	9,349	9,781
	Demand Totals	11,389	11,970	12,379	13,193
	Difference	(4,030)	(3,437)	(3,030)	(3,412)
Second Year	Supply Totals	7,494	8,691	9,518	9,958
	Demand Totals	11,623	12,216	12,633	13,464
	Difference	(4,129)	(3,525)	(3,115)	(3,506)
Third Year	Supply Totals	7,691	8,922	9,763	10,216
	Demand Totals	11,953	12.563	12,992	13,847
	Difference	(4,262)	(3,641)	(3,229)	(3,631)

Units in million gallons
Source: VWD Urban Water Management Plan, 2015

The project would result in a water demand of approximately 2.68 million gallons per year, which would increase the demand for the year 2025 under normal conditions by less than 0.0002 percent. Although the projected water supply and demand across all scenarios presents potential water supply shortages, the VWD continues to work closely with the SDCWA for future water supply planning, and based on the information provided by the SDCWA, the water supply available to VWD is considered feasible. As a result, adequate supplies are available to serve the project, and remaining excess supply would be available to serve reasonably foreseeable future development. Therefore, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c. Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

The project site would be served by existing VWD sewer lines. Sewer line extensions would be necessary to connect the proposed buildings to existing facilities along Twin Oaks Valley Road and Borden Road which would be installed during project construction.

The project would result in an increase in wastewater generation relative to existing site conditions. The majority of wastewater generated in the City of San Marcos is diverted to the MRF which has a capacity of five MGD (VWD 2018). As shown in Table 25, The project is expected to generate approximately 7,335 GPD, which would constitute 0.16 percent of the capacity of MRF.

Therefore, the there is adequate wastewater treatment capacity to serve the project. Therefore, the project would have a less than significant impact on wastewater treatment capacity at VWD.

LESS THAN SIGNIFICANT IMPACT

d. Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Solid waste service would be provided by EDCO Waste and Recycling Services, which handles residential, commercial, and industrial collections in the City of San Marcos. EDCO transports collected waste to the Escondido Transfer Station, where it is then transferred to the Sycamore Sanitary Landfill located in Santee. The Sycamore Landfill has a permitted capacity of 5,000 tons/day and a remaining capacity of 113,972,637 cubic yards (Department of Resources Recycling and Recovery [CalRecycle] 2018).

According to the CalEEMod results (see Appendix AQ/GHG), operation of the proposed project would generate an estimated 22.5 tons of waste per year (approximately 0.06 tons per day), which is less than 0.001 percent of the permitted daily capacity at the Sycamore Landfill. Therefore, the proposed project would not generate solid waste in excess of the capacity of the Sycamore Landfill. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

e. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Solid waste facilities require solid waste facility permits to operate, and the San Diego County Department of Environmental Health issues the facility permits. The Sycamore Landfill currently has active permit 37-AA-0023 and undergoes quarterly inspections. As the project would utilize the Sycamore Landfill for solid waste disposal, it would comply with existing regulations related to solid waste.

The California Integrated Waste Management Act of 1989 (Assembly Bill [AB] 939) mandates that local jurisdictions divert at least 50 percent of all solid waste generated by 2020. Assembly Bill 341 (AB 341) set a statewide goal for a 75 percent reduction in waste disposal by the year 2020 and established mandatory recycling for commercial businesses. The City is required to comply with this law and report their progress towards achieving the 75 percent reduction goal to CalRecycle. The City of San Marcos currently exceeds AB 939 requirements of solid waste diversion and has achieved

an AB 341 compliance rate of 87 percent among all qualifying commercial accounts. The project would comply with applicable solid waste diversion programs; therefore, it would have no impact related to solid waste regulations.

NO IMPACT

20 Wildfire

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

a. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

According to the Fire Hazard Severity Zones Viewer, the project is located approximately 110 feet east from a VHFHSZ, which is across Twin Oaks Valley Road (CalFire 2020).

The project would be designed, constructed, and operated pursuant to applicable standards outlined in the California Fire Code published by the California Building Standards Commission, 2019 Edition and adopted in Chapter 17 of the City of San Marcos Code of Ordinances. Such requirements include building and emergency access, adequate emergency notification, and means of egress for emergency vehicles. Such requirements include building and emergency access, adequate emergency notification, and means of egress for emergency vehicles. While project construction may require temporary truck and equipment access and parking on and around the project site, construction would not require lane or roadway closures that would temporarily impair emergency response or evacuation.

As discussed in Section 17, *Transportation*, the project would not impede access to emergency services. Additionally, as discussed in Section 15, *Public Services*, the SMFD would provide fire prevention, fire protection, and emergency response for the proposed project. The SMFD would review site plans, site construction, and the actual structure prior to occupancy to ensure that required fire protection safety features, including building sprinklers and emergency access, are implemented. In addition, the proposed project would comply with applicable policies and ordinances for fire prevention, protection, and safety as required by the SMMC, which include development with modern materials and pursuant to current standards, inclusive of fire-resistant materials, and provision of fire alarms and detection systems, and automatic fire sprinklers. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

The project location is not within a State Responsibility Area. Although the project site is not located in a VHFHSZ, it is approximately 100 feet east of a VHFHSZ located within the Santa Fe Hills. However, the project would involve construction of a new fuel station, convenience store, and car wash. Due to the project site's location near a VHFHSZ and located near the foothills of the Santa Fe Hills, employees and customers could be exposed to pollutant concentrations and landslide risks in the event of a wildfire.

The biggest factors for assessing wildfire risk include drought, slope, flammability of vegetation, and burn severity (length of time from last fire). Since fires burn faster uphill, slope is a crucial factor in fire spread. Vegetation provides fuel for fires. Rock and sand, water, and cultivated crops are considered non-burnable, while grasslands and hay are considered prime fuels for fire growth. Areas with steeper slopes often have more severe burns (Tufts University 2018). The project site does not include steep slopes but is adjacent to vegetation on its eastern side.

Wildfire smoke produced from combustion of natural biomass contains thousands of individual compounds, including particulate matter, carbon dioxide, water vapor, carbon monoxide, hydrocarbons and other organic chemicals, nitrogen oxides, and trace minerals. Wildfires can move into the wildland urban interface, burning homes and structures and thereby consuming man-made materials in addition to natural fuels. Wildfire behavior varies depending on natural fuel type; fires in forest fuels can range from mild to severe and can spread very slowly or extremely rapidly depending on weather and fuel conditions. Wildfires in forests can last for weeks or months and are often the type that result in the most severe and longest duration air quality impacts. Smoke levels in populated areas can be difficult to predict (USEPA 2019).

Project structures and infrastructure would be constructed to modern fire code and safety standards through conformance with the SMMC Chapter 17.64, which adopts the 2019 California Fire Code and establishes provisions for fire safety related to construction, maintenance and design of buildings and land uses. Facilities would not be located within the steep, vegetated slopes and hillsides where fire risk is greatest. As Santa Ana winds generally move from northeast to southwest, project development would not exacerbate wildfire risk from winds, since the project site is located east of the VHFHSZ. In addition, the project site is easily accessible by the Fire Department, as San Marcos Fire Department Station No. 1 is located approximately 0.5-mile (driving distance) south of the project site.

Due to the proximity to the VHFHSZ, the project site is subject to wildfire risks, including pollutants from smoke, landslides, and downstream flooding. However, the project would not exacerbate wildfire risks and would reduce risks to people or structures. Therefore, impacts related to exposing people to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire are anticipated to be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The project site is located approximately 100 feet east of a VHFHSZ. The project would be served by existing roads and utilities and would not require the installation or maintenance of associated infrastructure that may exacerbate fire risk. Utility laterals would be installed underground and would comply with State fire codes to reduce the risk of fires. Therefore, the project would not require additional roads, fuel breaks, emergency water sources, power lines or other utilities that would exacerbate fire risk nor cause temporary or ongoing impacts to the environment. Impacts would be less than significant.

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d. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

The project site is located approximately 100 feet east of a VHFHSZ. Slope instability from wildfire scarring of the landscape can result in slope instability in the form of more intensive flooding and landslides. These post-fire slope soils and altered drainage patterns can more easily creep away downslope sides of foundations and reduce lateral support. Major post-wildfire hazards are unstable hill slopes and altered drainage patterns. Slopes may suffer landslides, slumping, soil slips, and rockslides. According to the CGS Earthquake Zones of Required Investigation Map, the project site is not located within an area susceptible to landslides (DOC 2020b). However, the project is in a Special Flood Hazard area AE and a Regulatory Floodway subject to the one percent annual chance of flood (i.e., 100-year flood). Flooding in this area is unlikely to be caused by post-fire slope instability or drainage changes since project site is not adjacent to steep slopes.

As such, the project would not expose people or structures to downslope or downstream flooding or landslides. Therefore, impacts related to flooding and landslide hazards due to post-fire slope instability or drainage changes would be less than significant.

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21 Mandatory Findings of Significance

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

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

The proposed project is in an urban area surrounded by existing commercial and residential uses. As discussed in Section 4, *Biological Resources*, the project contains special-status biological resources, including sensitive vegetation communities and suitable habitat for nesting birds.

Twin Oaks Valley Creek contains suitable habitat for LBVI in the Southern Cottonwood-Willow Riparian habitat. Project implementation would directly remove 0.59 acre of Southern Cottonwood-Willow Riparian Forest. This vegetation community is occupied by LBVI and this species will be directly impacted through the removal of habitat. LBVI that is present both on-site and in adjacent

areas would also be potentially affected by indirect impacts associated with the project, such as dust, noise, human presence, nighttime lighting, increase in predators, and spread of non-native species into occupied habitat. These indirect impacts could result in nest failures or individual mortality of LBVI. Implementation of Mitigation Measures BIO-1 and BIO-3 through BIO-6 would reduce project impacts to LBVI to less than significant. Furthermore, the project could adversely affect raptors and other nesting birds if construction occurs while they are present on or adjacent to the project site through direct mortality. The loss of a nest due to construction activities is prohibited by law and would be considered significant without mitigation. Implementation of Mitigation Measures BIO-2 through BIO-5 would reduce project impacts to nesting birds and raptors to less than significant.

Project implementation would potentially impact 0.22 acre of Diegan Coastal Sage Scrub, 0.06 acre of disturbed Diegan Coastal Sage Scrub (0.28 acre of total impacts to a Group C habitat group), and 0.59 acre of Southern Cottonwood-Willow Riparian Forest, which are sensitive vegetation communities and would be considered significant without mitigation. Thus, Mitigation Measures BIO-3, BIO-4, BIO-6, and BIO-7 would be required to avoid and minimize direct and indirect impacts to riparian habitat and other sensitive vegetation communities found at the project site.

The project site contains Twin Oaks Valley Creek and associated wetland potentially under the jurisdiction of USACE, RWQCB, and CDFW. Project implementation would impact 0.09 acre and 256 linear feet of non-wetland waters of the United States (U.S.)/State and 0.23 acre of wetland waters of the U.S./State under the jurisdiction of USACE and RWQCB, and 0.55 acre and 520 linear feet of streambed under the jurisdiction of CDFW. Mitigation Measures BIO-8 and BIO-9 would reduce impacts to jurisdictional waters and wetlands to less than significant levels.

Furthermore, as discussed in Section 5 *Cultural Resources*, Section 7, *Geology and Soils*, and Section 18, *Tribal Cultural Resources*, the proposed project would have a less than significant impact on unanticipated cultural resources, paleontological resources, and tribal cultural resources with implementation of Mitigation Measures CR-1 through CR-3 and GEO-9. Implementation of these mitigation measures, as well as adherence to existing local, State and federal regulations and specific monitoring procedures related to the discovery of any unanticipated cultural resources, paleontological resources, tribal cultural resources, and human remains during construction activity, would reduce these potential impacts to a less than significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

As concluded in Sections 1 through 20, the project would have no impact, a less than significant impact, or a less than significant impact with mitigation incorporated, with respect to all environmental issues considered in this document. Cumulative impacts of several other resource areas have been addressed in the individual resource sections, including Air Quality, Greenhouse Gases, Noise, and Transportation/Traffic (see CEQA Guidelines Section 15064(h)(3)). As discussed in Section 3, *Air Quality*, and Section 8, *Greenhouse Gas Emissions*, the proposed project would result in less than significant impacts associated with air quality and GHG emissions. As discussed in Section 3, *Air Quality*, construction, and operational air pollutant emissions from the project would not exceed SCAQMD thresholds. Likewise, GHG emissions generated by the proposed project would not exceed the SCAQMD threshold and the project would not conflict with applicable sustainability

plans established for the purpose of reducing GHG emissions. The impact analyses in these sections use thresholds that already account for cumulative (regional) impacts, except for cumulative localized impacts of construction emissions.

As discussed in Section 13, *Noise*, the proposed project, including construction and operation, would not result in a perceptible increase in ambient noise levels. Construction noise generated by the project would remain below the FTA daytime threshold for an 8-hour period at the nearest noise-sensitive receptors, the single-family residences located 60-feet west of the project site. Construction and operation of the project would not create noise that exceeds the City's noise ordinance requirements for exterior or interior noise levels at the closest sensitive receivers.

Some of the other resource areas (agricultural, mineral resources, population and housing, and recreation) were determined to have no impact in comparison to existing conditions. Therefore, the project would not contribute to cumulative impacts related to these issues. Other issues (e.g., biological resources, cultural resources, geology, hazards, hazardous materials, and tribal cultural resources) are by their nature project specific and impacts at one location do not add to impacts at other locations or create additive impacts. As such, cumulative impacts would be less than significant (not cumulatively considerable).

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c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

In general, impacts to human beings are associated with air quality, hazards and hazardous materials, and noise impacts. As detailed in analyses for air quality, hazards and hazardous materials, and noise, the proposed project would not result, either directly or indirectly, in adverse hazards related to air quality, hazardous materials, or noise. Compliance with applicable rules, regulations, and recommended mitigation measures would reduce potential impacts on human beings to a less than significant level.

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