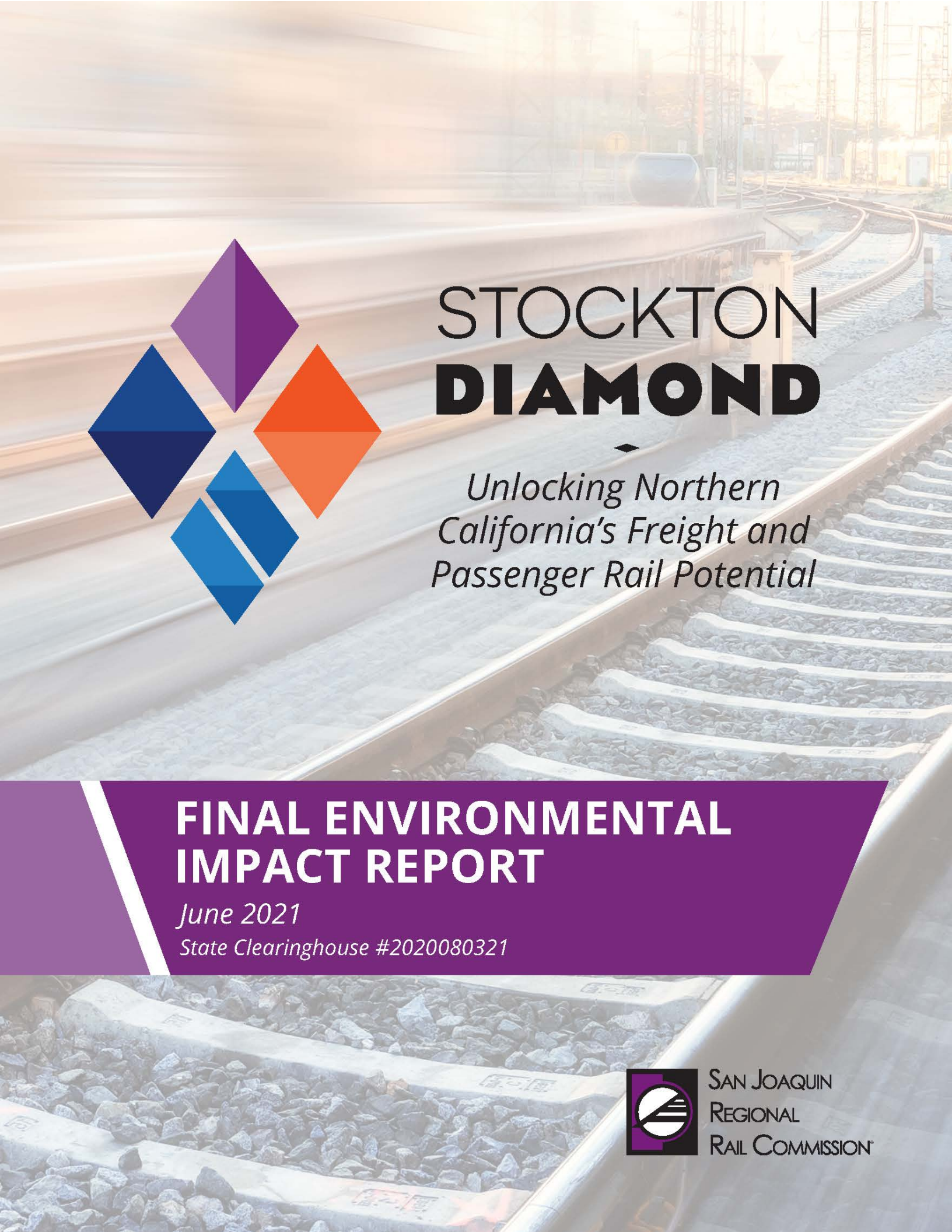

STOCKTON DIAMOND

Unlocking Northern California's Freight and Passenger Rail Potential

FINAL ENVIRONMENTAL IMPACT REPORT

June 2021

State Clearinghouse #2020080321

San Joaquin Regional Rail Commission

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Stockton Diamond Grade Separation Project

STATE CLEARINGHOUSE #2020080321

June 2021

Prepared for: San Joaquin Regional Rail Commission

San Joaquin Regional Rail Commission
949 East Channel Street
Stockton, California 95202

Contact: Kevin Sheridan
info@stocktondiamond.com

Prepared by: HDR

HDR Engineering, Inc.
2379 Gateway Oaks Drive, Suite 200
Sacramento, California 95833

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Abbreviations and Acronyms

Term	Definition
°F	degrees Fahrenheit
AASHTO	American Association of State and Highway Transportation Officials
AB	Assembly Bill
ACE	Altamont Corridor Express
ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing materials
ACS	American Community Survey
ADA	Americans with Disabilities Act
AIA	Airport Influence Area
ALUCP	Airport Land Use Compatibility Plan
AM	morning
APE	area of potential effect
ARB	California Air Resources Board
ASTM	American Society for Testing and Materials International
BG	block group
bgs	below ground surface
BLM	Bureau of Land Management
BMP	best management practice
BNSF	BNSF Railway
BSA	biological study area
BTU	British Thermal Units
CAAQS	California Ambient Air Quality Standards
Cal Water	California Water Service
Cal/EPA	California Environmental Protection Agency
CALFIRE	California Department of Forestry and Fire Protection
CALGreen	California Green Building Standards Code
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CCAA	California Clean Air Act

Term	Definition
CCR	California Code of Regulations
CCT	Central California Traction Company
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CGP	Construction General Permit
CHP	California Highway Patrol
CHSRA	California High-Speed Rail Authority
CMP	Construction Management Process
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CRHR	California Register of Historical Resources
CT	census tract
CUPA	Certified Unified Program Agency
CVFPB	Central Valley Flood Protection Board
CWA	Clean Water Act
CY	cubic yard
dB	decibel
dBA	A-weighted decibel
DOF	California Department of Finance
DOT	Department of Transportation
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
EA	Environmental Assessment
EB	eastbound

Term	Definition
EDR	Environmental Data Resources
EFH	Essential Fish Habitat
EHRA	Earthquake Hazards Reduction Act
EIA	Energy Information Administration
EIR	Environmental Impact Report
EO	Executive Order
EOP	Emergency Operations Plan
EPA	U.S. Environmental Protection Agency
ESA	Environmental Site Assessment
ESA	Endangered Species Act
FCAA	federal Clean Air Act
FEMA	Federal Emergency Management Agency
FGC	California Fish and Game Code
FIRM	Flood Insurance Rate Map
FR	*Federal Register*
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
GAMAQI	Guide for Assessing and Mitigating Air Quality Impacts
GAO	Government Accountability Office
GHG	greenhouse gas
GIS	geographic information system
GWh	gigawatt hour
HAPC	Habitat Areas of Particular Concern
HASP	health and safety plan
HCM	*Highway Capacity Manual*
HCP	Habitat Conservation Plan
HMMP	hazardous materials management plan
HRA	health risk assessment
I-205	Interstate 205
I-5	Interstate 5
I-580	Interstate 580
kV	kilovolt

Term	Definition
kWh	kilowatt hour
LBP	lead-based paint
LCCF	lightweight cellular concrete fill
Ldn	day-night sound level
LEP	limited English proficiency
Leq	equivalent sound level
Lmax	maximum sound pressure level
LOS	level of service
LQG	large-quantity generator
LRA	Local Responsibility Area
LUST	leaking underground storage tank
MBTA	Migratory Bird Treaty Act
mgd	million gallons per day
MM	mitigation measure
MP	milepost
mph	miles per hour
MRI	magnetic resonance imaging
MS4	municipal separate storm sewer system
MT	metric ton
N/A	not applicable
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NAVD 88	North American Vertical Datum of 1988
NB	northbound
NCCP	natural community conservation plan
NCCPA	Natural Community Conservation Planning Act
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NE	northeast
NEPA	National Environmental Policy Act
NFRAP	no further remedial action planned
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service

Term	Definition
NO	nitric oxide
NO_2	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NOP	Notice of Preparation
NO_X	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRHP	National Register of Historic Places
NW	northwest
O_3	ozone
OES	Office of Emergency Services
OHP	Office of Historic Preservation
OSHA	Occupation Safety and Health Administration
PA	Programmatic Agreement
Pb	lead
PDT	Project Development Team
PFYC	Potential Fossil Yield Classification
PG&E	Pacific Gas and Electric
PL	Public Law
PM	evening
PM_{10}	particulate matter 10 microns in diameter or less
$PM_{2.5}$	particulate matter 2.5 microns in diameter or less
ppm	parts per million
PPV	peak particle velocity
PRC	California Public Resources Code
PRMP	Paleontological Resources Management Plan
RCMP	Regional Congestion Management Program
RCRA	Resource Conservation and Recovery Act
RMS	root mean square
ROG	reactive organic gas
RR	railroad
RSA	Resource Study Area

Term	Definition
RTD	Regional Transit District
RTP	Regional Transportation Plan
RWCF	Regional Wastewater Control Facility
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SCH	State Clearinghouse
SCK	Stockton Metropolitan Airport
SCS	Sustainable Communities Strategy
SE	southeast
SEL	sound exposure level
SEWD	Stockton East Water District
SFD	Stockton Fire Department
SHMA	Seismic Hazards Mapping Act
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SJAFCA	San Joaquin Area Flood Control Agency
SJCCTP	San Joaquin County Coordinated Transportation Plan
SJCOG	San Joaquin Council of Governments
SJJPA	San Joaquin Joint Powers Authority
SJMSCP	San Joaquin County Multi-Species Habitat Conservation and Open Space Plan
SJRRC	San Joaquin Regional Rail Commission
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SO_2	sulfur dioxide
SO_X	sulfur oxide
SP	Southern Pacific
SPCC	Spill Prevention, Control, and Countermeasure
SPD	Stockton Police Department
SPL	State Priority List
SQG	small-quantity generator

Term	Definition
SR	State Route
STIP	State Transportation Improvement Program
SWG	Stakeholder Working Group
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TCE	temporary construction easement
TMDL	total maximum daily load
TSCA	Toxic Substances Control Act
TVSJVRRA	Tri-Valley San Joaquin Valley Regional Rail Authority
UC	University of California
UCMP	University of California Museum of Paleontology
UP	Union Pacific Railroad
US	United States
USA North	Underground Service Alert North
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USD	Unified School District
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	underground storage tank
v/c	volume-to-capacity
VdB	vibration velocity
VMT	vehicle miles traveled
VOC	volatile organic compound
WB	westbound
WDR	waste discharge requirement
WEAP	Worker Environmental Awareness Protection

3.7 Greenhouse Gas Emissions

3.7.1 INTRODUCTION

This section describes ambient conditions, including existing inventories in the greenhouse gas (GHG) RSA. This section also discusses applicable GHG regulations. Critical air quality issues along the construction footprint include short-term construction related emissions, which could exceed local air district thresholds designed to achieve state GHG reduction goals. The effects analysis of the proposed Project considers the net effect of the proposed Project on GHG emissions as a result of long-term operation.

3.7.2 REGULATORY CONTEXT AND PROJECT CONSISTENCY

This section identifies the state and local laws, regulations, and orders that are relevant to the analysis of GHG emissions in this EIR. It also states whether the proposed Project would be in compliance with the regulations described herein.

State Plans, Policies, and Regulations

Assembly Bill 32 (Global Warming Solutions Act)

In September 2006, the California State Legislature enacted the California Global Warming Solutions Act of 2006, also known as AB 32. AB 32 required that statewide GHG emissions be reduced to 1990 levels by 2020. California met its 2020 reduction goal in 2018.

Executive Order B-30-15

On April 20, 2015, former Governor Brown signed EO B-30-15 to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. California's emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the ultimate goal of reducing emissions 80 percent below 1990 levels by 2050. This is in line with the scientifically established levels needed in the U.S. to limit global warming below 2 degrees Celsius, the warming threshold at which there will likely be major climate disruptions such as super droughts and rising sea levels.

Senate Bill 32

SB 32 was signed into law on September 8, 2016 and expands upon AB 32 to reduce GHG emissions. SB 32 sets into law the mandated GHG emissions target of 40 percent below 1990 levels by 2030 written into EO B-30-15.

Climate Change Scoping Plan

In December 2008, the ARB adopted the *Climate Change Scoping Plan* (2008 Scoping Plan) to achieve the goals outlined in AB 32. The 2008 Scoping Plan, developed by ARB in coordination with the Climate Action Team, proposed a comprehensive set of actions designed to reduce overall GHG emissions in California, improve the environment, reduce dependence on oil, diversify our energy

sources, save energy, create new jobs, and enhance public health. According to the 2008 Scoping Plan, California will implement strategies to achieve a reduction of approximately 118 million metric tons (MT) CO_2e, or approximately 22 percent from the State's projected 2020 emission level of 545 million MT of CO_2e under a business-as-usual scenario. This is a reduction of 47 million MT CO_2e, or almost 10 percent, from 2008 emissions. The ARB's original 2020 projection was 596 million MT CO_2e, but this revised 2020 projection considered the economic downturn that occurred in 2008.

The *First Update to the Climate Change Scoping Plan* (2014 Scoping Plan) was approved by the ARB in May 2014 and built upon the 2008 Scoping Plan with new strategies and recommendations. The 2014 Scoping Plan contained the main strategies California will implement to achieve a reduction of 80 million MT of CO_2e emissions, or approximately 16 percent, from the State's projected 2020 emission level of 507 million MT of CO_2e under the business-as-usual scenario defined in the 2014 Scoping Plan. The 2014 Scoping Plan also included a breakdown of the amount of GHG reductions ARB recommended for each emissions sector of the state's GHG inventory. Several strategies to reduce GHG emissions were included: Low Carbon Fuel Standard, Pavley Rule, Advanced Clean Cars program, Renewable Portfolio Standard, and Sustainable Communities Strategy.

In 2016, the Legislature passed SB 32, which codified a 2030 GHG emissions reduction target of 40 percent below 1990 levels. With the passage of SB 32, the Legislature passed companion legislation AB 197, which provided additional direction for developing the Scoping Plan. The ARB adopted *California's 2017 Climate Change Scoping Plan* (2017 Scoping Plan) in November 2017. The 2017 Scoping Plan represents a second update to the scoping plan to reflect the 2030 target as codified by SB 32. According to the 2017 Scoping Plan, the 2030 target of 260 million MT of CO_2e requires the reduction of 129 million MT of CO_2e, or approximately 33.2 percent, from the state's projected 2030 business-as-usual scenario emissions level of 389 million MT of CO_2e.

Assembly Bill 1493 (Pavley Clean Car Standards)

In July 2002, the Legislature enacted AB 1493 (Pavley Bill), which required the ARB to develop and adopt regulations that achieve "the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty truck and other vehicles determined by ARB to be vehicles whose primary use is noncommercial personal transportation in the state." In September 2004, pursuant to this directive, the ARB approved regulations to reduce GHG emissions from new motor vehicles beginning with the 2009 model year. These regulations created what are commonly known as the "Pavley standards." In September 2009, the ARB adopted amendments to the Pavley standards to reduce GHG emissions from new motor vehicles through the 2016 model year. These regulations created what are commonly known as the "Pavley II standards."

In January 2012, the ARB adopted an Advanced Clean Cars program aimed at reducing both smog-causing pollutants and GHG emissions for vehicles model years 2017-2025. The Advanced Clean Car regulations focus on substantially increasing the number of plug-in hybrid cars and zero-emission vehicles in the vehicle fleet and on making fuels such as electricity and hydrogen readily available for these vehicle technologies. It is expected that the Advanced Clean Car regulations will

reduce GHG emissions from California passenger vehicles by about 34 percent below 2016 levels by 2025, while improving fuel efficiency and reducing motorists' costs.

Low Carbon Fuel Standards

In 2009, the ARB approved the Low Carbon Fuel Standards regulation to reduce the carbon intensity of transportation fuel used in California by at least 10 percent by 2020 from a 2010 baseline. The Low Carbon Fuel Standards is one of the key AB 32 Scoping Plan measures intended to reduce GHG emissions and other smog-forming and toxic air pollutants by improving vehicle technology, reducing fuel consumption, and increasing transportation mobility options. The Low Carbon Fuel Standards is designed to decrease the carbon intensity of California's transportation fuel pool and provide an increasing range of low-carbon and renewable alternatives, which reduce petroleum dependency and achieve air quality benefits.

In 2011, the ARB approved amendments to clarify, streamline, and enhance certain provisions of the regulation. In 2015, the ARB re-adopted the Low Carbon Fuel Standards to address procedural issues. In 2018, the ARB approved amendments to the regulation, which included strengthening and smoothing the carbon intensity benchmarks through 2030 in-line with California's 2030 GHG target enacted through SB 32. The 2017 Scoping Plan, which reflects the 2030 target of reducing statewide GHG emissions by 40 percent below 1990 levels codified by SB 32, increased stringency of the Low Carbon Fuel Standards by requiring an 18 percent reduction in carbon intensity by 2030, up from 10 percent in 2020.

Renewable Portfolio Standards (SB 1078)

In September 2002, the Legislature enacted SB 1078, which established the Renewables Portfolio Standard program, requiring retail sellers of electricity to purchase a specified minimum percentage of electricity generated by eligible renewable energy resources such as wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas. The Renewables Portfolio Standard applies to all electricity retailers in the State, including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. SB 1078 set a target by which 20 percent of the State's electricity would be generated by renewable sources. In September 2006, the Legislature enacted SB 107, which modified the Renewables Portfolio Standard to require that at least 20 percent of electricity retail sales be served by renewable energy resources by year 2010.

In April 2011, the Legislature enacted SB X1-2, which set the requirement that 33 percent of the State's electricity come from renewables by 2020. According to SB X1-2, all electricity retailers must meet renewable energy goals of 20 percent of retail sales from renewables by the end of 2013, 25 percent by the end of 2016, and 33 percent by the end of 2020.

In 2015, the Legislature enacted SB 350. SB 350 embodied a policy encouraging a substantial increase in the use of electric vehicles and increased the Renewable Portfolio Standard to require 50 percent of electricity generated to be from renewables by 2030. On September 10, 2018, former Governor Brown signed into law SB 100 and EO B-55-18. SB 100 raises California's Renewable

Portfolio Standard requirement to a 50 percent renewable resources target by December 31, 2026, and to achieve a 60 percent target by December 31, 2030. SB 100 also requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt hours of those products sold to their retail end-use customers achieve 44 percent of retail sales by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030. EO B-55-18 establishes a carbon neutrality goal for California by 2045; and sets a goal to maintain net negative emissions thereafter.

Local Plans, Policies, and Regulations

San Joaquin Valley Air Pollution Control District

The proposed Project is located within the jurisdiction of the SJVAPCD, which has the following responsibilities:

- Implementing air quality regulations, including developing plans and control measures for stationary sources of air pollution to meet the NAAQS and CAAQS.
- Implementing permit programs for the construction, modification, and operation of sources of air pollution.
- Enforcing air pollution statutes and regulations governing stationary sources. With ARB oversight, the SJVAPCD also administers local regulations.

Envision Stockton 2040 General Plan

The following *Envision Stockton 2040 General Plan* policies and implementing actions are relevant to this Project:

- **Policy SAF-4.1**. Reduce air impacts from mobile and stationary sources of air pollution.
- **Action SAF-4.1A**. Require the construction and operation of new development to implement best practices that reduce air pollutant emissions, including:
    - Use of low-emission and well-maintained construction equipment, with idling time limits.
    - Installation of electrical service connections at loading docks, where appropriate.
    - Installation of Energy Star-certified appliances.
    - Entering into Voluntary Emissions Reduction Agreements with the SJVAPCD
- **Action SAF-4.1C**. Require the use of electric-powered construction and landscaping equipment as conditions of project approval when appropriate.
- **Action SAF-4.1D**. Limit heavy-duty off-road equipment idling time to meet the ARB's idling regulations for on-road trucks.
- **Action SAF-4.3B**. Coordinate review of development project applications with the SJVAPCD to ensure that air quality impacts are consistently identified and mitigated during CEQA review.

City of Stockton Climate Action Plan

The City of Stockton Climate Action Plan was adopted on December 2, 2014. The Climate Action Plan set a GHG reduction goal of 10 percent reduction below 2005 levels, which is consistent with the GHG reduction targets codified by AB 32. To achieve the City's GHG reduction goal for 2020, the Climate Action Plan includes strategies to reduce GHG emissions from new development, building energy use, transportation, water use and treatment, off-road vehicles, and solid waste.

The City of Stockton has not yet begun the process of updating its Climate Action Plan to include a 2030 GHG emissions reduction target, consistent with SB 32. The process is anticipated to begin in 2021.

Consistency with Plans, Policies, and Regulations

The proposed Project would comply with all relevant federal, state, and local policies and regulations as it relates to air quality and GHG emissions. The proposed Project would ensure that all air quality and greenhouse gas regulations are followed, which includes compliance with federal and state's Clean Air Act and all applicable goals and policies set forth by San Joaquin County and City of Stockton.

3.7.3 METHODS FOR EVALUATING IMPACTS

This section describes the approach used in this EIR to analyze potential Project impacts on climate change. The impact analysis evaluates the potential of the Project to generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or conflict with an applicable plan, policy, or regulation adopted for the purpose of reduction the emissions of GHG. The environmental consequences of the proposed Project were analyzed based on a review of the GHG setting presented below in Section 3.7.4.

Definition of Resource Study Area

As defined in Section 3.0, *Introduction*, RSAs are the geographic boundaries in which the environmental investigations specific to each resource topic were conducted. The RSA for GHG is distinct because of the nature of criteria pollutants and GHGs mixing into the atmosphere. The GHG RSA for the proposed Project is defined as the entire State of California.

Methods for Data Collection and Analysis

The impact analysis focuses on GHGs. The impacts of GHGs generated by construction and operations of the proposed Project were assessed using standard and accepted software tools, techniques, and emission factors. This section summarizes the methods used to analyze impacts.

Construction Impacts

Construction emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2. Three design options for the grade separation, that is, soil embankment, precast

concrete panel system with lightweight cellular concrete fill, and viaduct bridge structure, were analyzed quantitatively and included in the emissions modeling.

Operational Impacts

The proposed Project in and of itself would not increase the projected number of freight and passenger trains or change the regional VMT. Therefore, the proposed Project's effect on long-term GHG emissions is evaluated qualitatively.

GHG Emissions

For the purposes of determining whether GHG emissions from affected projects are adverse, Project emissions must include direct, indirect, and, to the extent information is available, life cycle emissions during construction and operation. Based on this direction, construction emissions were amortized over the life of the project (defined as 30 years), added to the change in operational emissions, and compared to the applicable GHG significance thresholds.

Methods for Determining Significance under CEQA

The thresholds of significance for impacts were developed consistent with the CEQA Guidelines to determine the significance of potential impacts in relation to GHG emissions that could result from implementation of the proposed Project. Accordingly, the following criteria were assessed:

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 GHG?

SJVAPCD GHG Significance Criteria

The SJVAPCD adopted *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* on December 17, 2009. SJVAPCD's methodology for evaluating GHG emissions impacts also includes methodology to evaluate whether a project would comply with AB 32 by conducting an analysis of whether the project would reduce GHG emissions by 29 percent from business-as-usual scenario through implementation of Best Performance Standards. The November 30, 2015, *Center for Biological Diversity v. California Department of Fish and Wildlife* (Newhall Ranch) ruling effectively limits use of this performance metric. The 29 percent below business-as-usual scenario established in the 2008 Scoping Plan is derived from the statewide reduction target set by AB 32 for year 2020. The court held that the 29 percent is the statewide goal, but there is no substantial evidence that establishes a nexus between the statewide goal and the percent reduction a specific land use project would need to achieve to be consistent with the goals of AB 32. Projects must determine the reduction target specific to the land use type being proposed. The SJVAPCD's significance criteria do not establish a nexus that connects the statewide GHG emissions reductions identified in the 2008 Scoping Plan to reductions needed for

new development projects. Therefore, the 900 MT of CO_2e per year threshold that was established by CAPCOA is used in this analysis. The basis for this threshold is described below.

CAPCOA evaluated an interim 900 MT of CO_2e per year screening level as a theoretical approach to identify projects that require further analysis and potential mitigation (CAPCOA 2008). The 900 MT CO_2e per year screening threshold was developed by CAPCOA based on data collection on various development applications submitted among four diverse cities, the Cities of Los Angeles, Pleasanton, Dublin, and Livermore. Following the review of numerous pending applications within these four cities, an analysis was conducted to determine the threshold that would capture 90 percent or more of applications that would be required to conduct a full GHG analysis and implement GHG emission reduction measures as part of final project design. A project that exceeds the 900 MT of CO_2e per year screening threshold would be required to conduct a more detailed GHG analysis. Screening thresholds are recommended based on various land use densities and project types. Projects that meet or fall below the screening thresholds are expected to result in 900 MT of CO_2e per year or less and would not require additional analysis and the climate change impacts would be considered less than significant.

3.7.4 AFFECTED ENVIRONMENT

This section describes the affected environment related to GHGs.

GHGs

Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as GHGs, to the atmosphere. The primary source of these GHGs is fossil fuel use. The major GHGs are briefly described below.

- CO_2 enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and also as a result of other chemical reactions (for example, manufacture of cement). CO_2 is removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.
- Methane is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in municipal landfills and water treatment facilities.
- Nitrous oxide is emitted during agricultural and industrial activities as well as during the combustion of fossil fuels and solid waste.
- Fluorinated gases are synthetic, strong GHGs that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances. Fluorinated gases include chlorofluorocarbons, perfluorocarbons, sulfur hexafluoride, hydrochlorofluorocarbons, hydrofluorocarbons.

Some GHGs, such as CO_2, occur naturally and are emitted to the atmosphere through both natural processes and human activities. Other GHGs (for example, fluorinated gases) are created and emitted solely through human activities. GHGs differ in their ability to trap heat. The ability of a GHG

to trap heat is measured by an index called the global warming potential expressed as CO_2e. CO_2 is considered as the baseline in this index and has a global warming potential of one. Methane has a global warming potential of 21 times that of CO_2, and nitrous oxide has a global warming potential of 310 times of CO_2. The family of fluorinated gases have substantially greater global warming potential, ranging from 1,300 for hydrofluorocarbons to 23,900 for sulfur hexafluoride.

Causes and Effects of Climate Change

Climate change is a term that refers to major changes in temperature, rainfall, snow, or wind patterns lasting for decades or longer. Both natural and human factors contribute to climate change. Natural causes include changes in the Earth's orbit, the sun's intensity, the circulation of the ocean and the atmosphere, and volcanic activity. Human causes include burning fossil fuels, cutting down forests, and developing land for farms, cities, and roads.

The greenhouse effect naturally regulates the Earth's temperature. However, human activity has increased the intensity of the greenhouse effect by releasing increasing amounts of GHGs into the atmosphere. GHGs can remain in the atmosphere for decades or even hundreds of thousands of years (depending on the GHG). Climate change is happening now, and the effects can be seen on every continent and in every ocean. While certain effects of climate change can be beneficial, particularly in the short term, current and future effects of climate change pose considerable risks to people's health and welfare, and the environment.

Observed changes over the last several decades across the state reveal clear signs of climate change. Statewide average temperatures increased by about 1.7°F from 1895 to 2011. By 2050, California is projected to warm by approximately 2.7°F above 2000 averages, a threefold increase in the rate of warming over the last century. By 2100, average temperatures could increase from 4.1 to 8.6°F, depending on emissions levels (City of Stockton 2018b).

Specific climate change impacts that could affect California, including the San Joaquin area, are:

- **Water Resources Impacts**. By late this century, projections suggest 30-year average precipitation will decline by more than 10 percent below the historical average. This drying trend is caused by an apparent decline in the frequency of rain and snowfall. Even in projections with relatively small or no declines in precipitation, central and southern parts of the state can be expected to be drier from the warming effects alone—the spring snowpack will melt sooner, and the moisture in soils will evaporate during long dry summer months.
- **Wildfire Risks**. Earlier snowmelt, higher temperatures, and longer dry periods over a longer fire season will directly increase wildfire risk. Indirectly, wildfire risk will also be influenced by potential climate-related changes in vegetation and ignition potential from lightning. Human activities will continue to be the biggest factor in ignition risk. The number of large fires statewide is estimated to increase from 58 percent to 128 percent above historical levels by 2085. Under the same emissions scenario, estimated burned area will increase by 57 percent to 169 percent, depending on location.
- **Health Impacts**. Many of the gravest threats to public health in California stem from the increase of extreme conditions, principally more frequent, more intense, and longer heat waves. Particular

concern centers on the increasing tendency for multiple hot days in succession and heat waves occurring simultaneously in several regions throughout the state. Public health could also be affected by climate change impacts on air quality, food production, the amount and quality of water supplies, energy pricing and availability, and the spread of infectious diseases. Higher temperatures also increase ground-level ozone levels. Furthermore, wildfires can increase particulate air pollution in the major air basins of California.

- **Increased Energy Demand**. Increases in average temperature and higher frequency of extreme heat events combined with new residential development across the state will drive up the demand for cooling in the increasingly hot and longer summer season and decrease demand for heating in the cooler season. Warmer, drier summers also increase system losses at natural gas plants (reduced efficiency in the electricity generation process at higher temperatures) and hydropower plants (lower reservoir levels). Transmission of electricity will also be affected by climate change. Transmission lines lose 7 percent to 8 percent of transmitting capacity in high temperatures while needing to transport greater loads. This means that more electricity needs to be produced to make up for the loss in capacity and the growing demand.

3.7.5 ENVIRONMENTAL ANALYSIS

This section describes potential environmental consequences on GHGs that could result from implementing the proposed Project.

CEQA Significance Findings

An environmental analysis of each threshold identified is provided, below:

a) Would the project generate GHG emissions during construction and operation that have a significant impact on the environment?

Less than Significant Impact. As shown in Section 3.2, *Air Quality*, Table 3.2-5 through Table 3.2-7, demolition, construction, and clearing activities would generate 7,480 to 12,913 MT of CO2e. Amortized over a 30-year period, the approximate life of the proposed Project, the yearly contribution to GHG from the construction of the proposed Project would be 249 to 430 MT of CO2e. Therefore, the GHG emissions from construction would not exceed the 900 MT of CO2e per year screening threshold, and short-term impacts would be considered less than significant.

The Stockton Diamond is the convergence point of several passenger and freight rail services; consequently, there is a substantial amount of rail activity at this location. The current rail activity through the Stockton Diamond results in substantial delays and inefficiencies in operations. The proposed Project is intended to improve regional passenger and freight rail efficiency and travel reliability by reducing conflicting train movements. By grade separating and providing an uninterrupted flow for the freight main line and shared passenger rail traffic, which accounts for the majority of the total projected train volumes through the Diamond, the proposed Project would improve freight and passenger movements and lead to lower costs for freight shipping, reduced delays, and a decrease in fuel consumption for idling locomotives. The proposed Project would reduce GHG emissions caused by trains and vehicles that sit idling due to congestion and delays.

As shown in Table 3.2-11 in Section 3.2, *Air Quality*, the proposed Project would result in long-term reductions in GHG emissions of up to 3,220 tons per year. The reduction in GHG emissions would help California meet its 2030 goals under SB 32. ~~The improved freight mobility would reduce the total daily occupancy of the roadway crossings by approximately 20 percent in 2045. The reduction in crossing occupancy would improve on-road traffic flow and reduce vehicle idling in the Project study area. Reductions in air pollutant emissions can lead to long-term health benefits for residents and employees along the existing rail corridors, addressing health problems associated with air pollution such as lung irritation, inflammation, asthma, heart and lung disease, and worsening of existing chronic health conditions. In addition, reduction of GHG emissions would help California meet its 2030 goals under SB 32.~~

~~Once complete, the proposed Project would provide an overall benefit, by reducing the long-term regional GHG emissions.~~ Therefore, the proposed Project's impact would be considered less than significant, and no mitigation measures would be required.

b) Would the project conflict with a plan, policy, or regulation adopted for the purpose of reducing the GHG emissions?

Less than Significant Impact. The proposed Project would construct a grade separation of the BNSF and UP rail lines to reduce rail congestion and allow for an uninterrupted flow of rail traffic through the crossing and would result in GHG emissions reductions below that of the No Project Alternative. As stated above, the proposed Project would reduce the total daily occupancy of the roadway crossings by approximately 20 percent in 2045. The reduction of GHG emissions would help California meet its reduction goals. Therefore, the proposed Project would not conflict with a plan, policy, or regulation adopted for the purpose of reducing GHG emissions, and short-term and long-term impacts would be less than significant. No mitigation measures are required.

3.7.6 BEST MANAGEMENT PRACTICES AND/OR MITIGATION MEASURES

No specific GHG BMP or mitigation measures would be required as a result of the proposed Project.

3.8 Hazards and Hazardous Materials

3.8.1 INTRODUCTION

This section describes the regulatory setting and affected environment for hazards and hazardous materials and identifies the proposed Project's potential temporary and permanent effects during construction and operation. In particular, this hazards and hazardous materials analysis focuses on the potential for the proposed Project to result in a release of hazardous substances into the environment; disturb contaminated sites; interfere with an emergency response or emergency evacuation plan; increase fire hazards; create additional hazards to aircraft or workers working in the vicinity of an airport, private airstrip, or within an airport land use plan; or create additional hazards from hazardous materials releases near schools and sensitive receptors within the hazards and hazardous materials RSA. This section also addresses the proposed Project's consistency with federal, state, and local regulations, policies and goals.

Terminology

For the purposes of this section, the term "hazardous materials" refers to both hazardous substances and hazardous wastes. A "hazardous material" is defined by federal regulations as "a substance or material that … is capable of posing an unreasonable risk to health, safety, and property when transported in commerce" (49 C.F.R. 171.8). California Health and Safety Code Section 25501 defines a hazardous material as follows:

> Hazardous material means any material that, because of its quantity, concentration, or physical, or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. Hazardous materials include, but are not limited to, hazardous substances, hazardous waste, and any material which a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

Hazardous wastes are defined in California Health and Safety Code Section 25141(b) as wastes that:

> …because of their quantity, concentration, or physical, chemical, or infectious characteristics, [may either] cause, or significantly contribute to an increase in mortality or an increase in serious illness, [or] pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.
>
> Soil that is excavated from a site containing hazardous materials is a hazardous waste if it exceeds specific criteria listed in the CCR Title 22. Cleanup requirements are determined on a case-by-case basis by the agency with lead jurisdiction over the project. Under CCR Title 22, the term "hazardous substance" refers to both hazardous materials and hazardous wastes, both of which are classified according to four properties: (1) toxicity; (2) ignitability; (3) corrosiveness; and (4) reactivity (CCR Title 22, Chapter 11, Article 3).

ASTM Practice E1527-13 defines “release” as a release of any hazardous substance or petroleum product and has the same meaning as the definition of “release” in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S. Code [USC] §9601(22)).

3.8.2 REGULATORY CONTEXT AND PROJECT CONSISTENCY

This section identifies the federal, state, and local laws, regulations, and orders that are relevant to the analysis of hazards and hazardous materials in this EIR/EA. It also states whether the proposed Project would be in compliance with the regulations described herein.

Federal Plans, Policies, and Regulations

Clean Air Act (42 U.S.C. 7401 et seq.)

The Clean Air Act is intended to protect the public from hazardous airborne contaminants that can affect human health. The National Emissions Standards for hazardous air pollutants were established under the EPA Clean Air Act. These emissions standards include the regulation of asbestos.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA; Superfund) (42 U.S.C. 9601 et seq.)

CERCLA, commonly known as Superfund, provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA establishes requirements concerning closed and abandoned hazardous waste sites, provides for the liability of persons responsible for releases of hazardous waste at these sites, and establishes a trust fund to provide for cleanup when no responsible party can be identified.

CERCLA enlarged and reauthorized the Superfund Amendments and Reauthorization Act of 1986 (SARA, PL 99-499). EPA compiles a list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the US and its territories, known as the National Priorities List (NPL).

The Hazardous Materials Transportation Act (C.F.R. Title 49)

The Hazardous Materials Transportation Act was enacted in 1975 with the purpose of providing adequate protection against the risks to life and property in the commercial transportation of hazardous material by improving the Secretary of Transportation’s regulatory and enforcement authority.

USDOT, along with the California Highway Patrol (CHP) and Caltrans, regulates hazardous materials transportation between states. Together, these agencies determine container types used and license hazardous-waste haulers for hazardous waste transportation on public roads. FRA enforces the Hazardous Materials Regulations, which include requirements that railroads and other hazardous materials transporters, as well as shippers, have and adhere to security plans and also

train their employees on both the safety and security matters involved in offering, accepting, or transporting hazardous materials.

National Oil and Hazardous Substances Pollution Contingency Plan

The National Oli and Hazardous Substances Pollution Contingency Plan (NCP) is the federal plan for responding to oil spills and hazardous substances releases. NCP establishes the National Response Team and its roles in the National Response System, which include planning and coordinating responses to major discharges of oil or hazardous waste; providing guidance to Regional Response Teams; coordinating a national preparedness, planning, and response program; and facilitating research to improve response activities. EPA has pending revisions to NCP in order to align it with the National Response Framework. These revisions have not been approved to date.

Oil Pollution and Prevention Regulation

EPA's oil spill prevention program includes the Spill Prevention, Control, and Countermeasure (SPCC) and the Facility Response Plan rules. The SPCC rule helps facilities prevent an oil discharge into navigable waters or adjoining shorelines. The Facility Response Plan rule requires certain facilities to submit a response plan and prepare to respond to a worst-case oil discharge.

Occupational Safety and Health Act of 1970

The Occupational Safety and Health Act, which is implemented by the Occupational Safety and Health Administration (OSHA), contains requirements, as set forth in Title 29 of the C.F.R. Section 1910, that are designed to promote worker safety, worker training, and a worker's right-to-know. OSHA requirements would be in effect during the proposed Project's construction and operation to ensure worker safety. C.F.R. Title 49 requires that every employee who transports hazardous materials receive training to recognize and identify hazardous materials and become familiar with hazardous materials requirements.

Resource Conservation and Recovery Act (RCRA; 42 USC 6901 et seq.)

The Resource Conservation and Recovery Act (RCRA) provides EPA the authority to control hazardous waste including its generation, transportation, treatment, storage, and disposal. Under RCRA, EPA has the authority to control the generation, transportation, treatment, storage, and disposal of hazardous waste by large-quantity generators (1,000 kilograms/month or more). Under the RCRA regulations, hazardous wastes must be tracked from the time of generation to the point of disposal. Additionally, all hazardous waste transporters are required to be permitted and must have an identification number. In California, EPA has delegated RCRA enforcement to California Environmental Protection Agency Department of Toxic Substances Control (Cal/EPA DTSC).

Right-to-Know Laws and Pollution Prevention Requirements

The Emergency Planning and Community Right-to-Know Act was passed in 1986 in response to concerns regarding the environmental and safety hazards posed by storing and handling toxic

chemicals. The Right-to-Know provisions allow the public to have a better understanding and access to information on chemicals at individual facilities, their uses, and releases into the environment.

EO 12856 was issued on August 3, 1993, directing federal agencies to conduct their facility management and acquisition activities to minimize the quantity of toxic chemicals entering any waste stream, including releases to the environment; report to the public on toxic chemicals entering any waste stream from their facilities, including releases to the environment; improve local emergency planning, response, and accident notification; and encourage markets for clean technologies and safe alternatives to extremely hazardous substances or toxic chemicals.

SEMS-ARCHIVE

The SEMS-ARCHIVE tracks sites that have no further interest under the federal Superfund program. The list was formerly known as the Comprehensive Environmental Response, Compensation, and Liability Information System –NFRAP– but was renamed SEMS-ARCHIVE by EPA in 2015. Archived sites have been removed and archived from the SEMS sites inventory. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on NPL, unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time.

Toxic Substances Control Act (TSCA; 15 USC 2601)

The Toxic Substances Control Act of 1976 (TSCA) provides EPA with authority to require reporting, record-keeping, and testing requirements and restrictions related to chemical substances and/or mixtures. Certain substances are generally excluded from TSCA, including, among others, food, drugs, cosmetics, and pesticides. TSCA addresses the production, import, use, and disposal of specific chemicals including polychlorinated biphenyls, asbestos, radon, and lead-based paints (LBP). The Frank R. Lautenberg Chemical Safety for the 21st Century Act was implemented on June 22, 2016, as an update to TSCA.

State Plans, Policies, and Regulations

California Environmental Protection Agency

Cal/EPA and the SWRCB establish rules governing hazardous materials use and hazardous waste management. Applicable state and local laws include the following:

- Aboveground Petroleum Storage Tank Act
- Asbestos-Containing Material Regulations
- California Accidental Release Prevention Program
- Emergency Response to Hazardous Materials Incidents
- Hazardous Substances Information and Training Act
- Hazardous Waste Control Law

- Hazardous Waste Generator and On-site Hazardous Waste Treatment Programs (that is, Tiered Permitting)
- Public Safety/Fire Regulations/Building Codes
- Safe Drinking Water and Toxic Enforcement Act
- Toxic Substances Control Act
- Underground Storage of Hazardous Substances Act

Within Cal/EPA, DTSC has primary regulatory responsibility, with delegation of enforcement to local jurisdictions that enter into agreements with the state agency, for hazardous materials management and hazardous waste generation, transport, and disposal under the authority of the Hazardous Waste Control Law.

Hazardous Materials Release Response Plans and Inventory Act (Business Plan Act)

The Business Plan Act requires businesses using hazardous materials to prepare a plan that describes their facilities, inventories, emergency response plans, and training programs. A business plan includes an inventory of hazardous materials handled, facility floor plans showing where hazardous materials are stored, an emergency response plan, and provisions for employee training in safety and emergency response procedures (California Health and Safety Code, Division 20, Chapter 6.95, Article 1). Per the requirements of this act, a Hazardous Materials Business Plan would be required for the safe storage, containment, and disposal of chemicals and hazardous materials related to the proposed Project operations, including waste materials.

Hazardous Materials Transportation

The State of California has adopted DOT regulations for the intrastate movement of hazardous materials. State regulations are contained in CCR Title 26. In addition, the State of California regulates the transportation of hazardous waste originating in the state and passing through the state (26 CCR). Both regulatory programs apply in California. The two state agencies that have primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies are the CHP and Caltrans.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program)

The Unified Program required the administrative consolidation of six hazardous materials and waste programs (Program Elements) under the Certified Unified Program Agency (CUPA). The following Program Elements are consolidated under the Unified Programs: Tiered Permitting, Aboveground Petroleum Storage Tank SPCC, Community-Right-To-Know, California Accidental Release Prevention, UST, and Uniform Fire Code Plans and Inventory Requirements. The Unified Program is intended to provide relief to businesses complying with the overlapping and sometimes conflicting requirements of former independently managed programs.

Radiologic Health Branch

The Radiologic Health Branch, within the Food, Drug, and Radiation Safety Division of the California Department of Public Health, enforces the laws and regulations (indicated below) designed to protect the public, workers, and the environment from exposure to radiation. The Radiological Health Branch is responsible for providing public health functions associated with administering a radiation control program. This includes licensing of radioactive materials, inspection of facilities using radiation, investigation of radiation incidents, and surveillance of radioactive contamination in the environment.

The Radiological Health Branch administers and enforces the following laws and implementing regulations:

- Radiation Control Law (Health and Safety Code Sec. 114960 et seq.); and
- Regulations implementing the above laws are in Title 17, CCR, Division 1, Chapter 5, Subchapters 4.0, 4.5, and 4.6.

State of California Emergency Plan

California has developed an emergency response plan to coordinate emergency services provided by federal, state, and local government and private agencies. Responding to hazardous materials incidents is one part of this plan. The plan is administered by the State Office of Emergency Services (Cal OES), which coordinates the responses of other agencies, including Cal/EPA, CHP, CDFW, the CVRWQCB, and the Stockton Fire Department (SFD). SFD provides first response capabilities, if needed, for hazardous materials releases and environmental emergencies within the Project site vicinity. Additionally, SFD coordinates with state and local authorities to prepare for, prevent, respond to, mitigate, and determine the responsibility of a variety of hazardous materials releases.

Local Plans, Policies, and Regulations

Certified Unified Program Agency

Senate Bill 1082 was passed in 1993 and required the six state-mandated hazardous waste and hazardous materials management programs to consolidate within a single Unified Program, administered by CUPA. These programs include the following:

1. Hazardous Materials Business Plan Program
2. Hazardous Waste Generator Program
3. Underground Storage Tank Program
4. California Accidental Release Prevention Program (Cal-ARP)
5. Tiered Permitting Program
6. Aboveground Petroleum Storage Act

The Environmental Health Department is the CUPA for San Joaquin County and is responsible for implementing the aforementioned programs in the county.

San Joaquin County Emergency Operations Plan – Hazardous Material Area Plan Annex

The Hazardous Material Area Plan meets the requirements for an Area Plan as established by Cal OES and has been included as a part of the County's Emergency Operations Plan (EOP). It outlines the areas of responsibility during a hazardous material incident and was developed using guidance and regulations from various local, state, and federal agencies and departments. The Area Plan has been developed pursuant to California Health and Safety Code Section 25503 – Business Area Plans. Local and State Agencies that reviewed the Area Plan include the County Office of Emergency Services, County Fire Chiefs Association, County Emergency Services Agency, County Environmental Health Department, and Cal OES, Fire-Rescue Division, Hazmat Section (San Joaquin County 2019b).

San Joaquin County Emergency Operations Plan – Transportation Annex

The San Joaquin County Emergency Operations Plan Transportation Annex outlines the responsibilities for the management and coordination of transportation services and resources during emergencies and disasters. In the event of an emergency, the Transportation Annex also includes procedures related to evacuation and supply movement as it relates to ground, rail, air, and marine transport (San Joaquin County 2020).

San Joaquin County 2035 General Plan – Public Health and Safety Element

The San Joaquin County 2035 General Plan's Public Health and Safety Element includes goals and policies intended to address the problem of hazardous materials and wastes, as well as the location, storage, transportation, and safety of these materials (San Joaquin County 2016).

Airport Land Use Compatibility Plan Update for Stockton Metropolitan Airport, Amended February 2018

The Airport Land Use Compatibility Plan (ALUCP) for the Stockton Metropolitan Airport (SCK) was prepared by the SJCOG, which is the Airport Land Use Commission for San Joaquin County. The ALUCP is intended to protect and promote the safety and welfare of residents, businesses, and airport users near the airport while supporting the continued operation of SCK. The plan includes policies to "protect the public from adverse effects of airport noise, to ensure that people and facilities are not concentrated in areas susceptible to aircraft accident, and to ensure that no structures or activities encroach upon or adversely affect the use of navigable airspace" (Stockton Metropolitan Airport 2018).

Consistency with Plans, Policies and Regulations

The proposed Project would comply with all relevant federal, state, and local policies and regulations as it relates to hazards and hazardous materials. The proposed Project would ensure the safe transport and management practices of hazardous materials, which includes compliance with regulations such as the federal Hazardous Materials Transportation Act, the State's Title 26 CCR, and the local certified unified management programs. Therefore, the proposed Project would be consistent with all policies and regulations related to hazards and hazardous materials.

3.8.3 METHODS FOR EVALUATING IMPACTS

This section defines the hazards and hazardous materials RSA and describes methods used to analyze the potential for the proposed Project to increase hazards in the hazards and hazardous materials RSA or to disturb potentially contaminated sites during construction and operations.

Definition of Resource Study Area

The RSA for hazards and hazardous materials encompasses the areas directly or indirectly affected by construction and operation of the proposed Project. It is defined as the area within 0.25 mile of the Project construction limits to account for potential hazardous materials releases within that distance of an existing school. A 0.25-mile radius is considered "adjacent" to the proposed Project and is used to determine the potential for contaminated media, such as soil or groundwater, to be disturbed by Project construction or operations. For compliance with CEQA, the RSA for potential hazards to airports only extends to 2 miles for the consideration of airports and airport land uses. It is assumed that the direct impacts would be confined to the proposed Project footprint, while indirect impacts could extend to the limits of the hazards and hazardous materials RSA.

Methods for Data Collection and Analysis

The analysis focuses on proposed Project elements that could result in the release of hazardous materials into the environment; disturb contaminated soils and groundwater; increase hazards to workers working near an existing airport, airstrip, or airport land use plan; increase fire hazards; emit hazardous emissions near schools; or interfere with an existing emergency response or emergency evacuation plan.

The hazards and hazardous materials analysis for this EIR is a qualitative analysis of the potential effects hazardous wastes and materials at known priority hazard sites can have on humans and the natural environment. Impacts from exposure to hazardous materials and wastes are those that could result from proposed Project activities that are in proximity to, or which could potentially disturb, sites containing these materials.

The resources used for data collection include:

- The Environmental Data Resources (EDR) Radius Map™ Report with GeoCheck (EDR 2020)
- San Joaquin County Draft Fire Hazards Severity Zone Map (CAL FIRE 2007)
- City of Stockton General Plan (City of Stockton 2021)
- San Joaquin County Hazardous Materials Area Plan Annex (San Joaquin County 2019b)
- Google Earth Pro 2021

Other primary data sources used to analyze hazardous materials and wastes in the hazards and hazardous materials RSA include the DTSC EnviroStor database and SWRCB GeoTracker database. EDR generated a Radius Map Report for the Project Study Area, in which over 1,600 environmental databases, including hundreds of state, city, and tribal sources, were searched to

identify hazardous waste sites along the alignment of the proposed Project. Google Earth Pro aerial imagery was used to identify the location of schools, airports, and airstrips in the hazards and hazardous materials RSA and extended RSA (for airports). Fire hazards were assessed using the San Joaquin County Fire Hazard Severity Zone Map. Other information on emergency response was obtained from the City of Stockton General Plan and the San Joaquin County Hazardous Material Area Plan Annex.

In order to identify the potential for impacts, the analysis involved identifying known and major hazardous materials sites and hazardous wastes sites that are included on NPL, State Priority List (SPL), and SWLF databases, as well as smaller hazardous waste sites such as Leaking Underground Storage Tank (LUST) sites. Significant impacts from hazardous materials and wastes can occur at the smaller hazardous waste sites; however, the degree of impact cannot be determined without a site-specific environmental investigation.

This analysis finds that hazardous materials and waste impacts could occur during both construction and operation of the proposed Project. Particular attention was given to the extent of proposed improvements, construction activity, ground disturbance that would occur outside of existing rights-of-way because these activities could disturb potentially contaminated soil and groundwater.

Sites of Concern

The analysis employed a relative risk ranking system for potential sites of concern that includes several investigative elements to describe “sites of concern.” A site of concern is a site that the investigative process has determined to have sufficient possibility of contamination.

Once the investigation process was completed, identified sites of concern were categorized using a risk ranking system, classifying the sites as low risk, moderate risk, or high-risk. Each category is generally defined as follows:

- Low-risk sites are those sites that have few indications of potential for release of hazardous materials. In some situations, sites that have had a hazardous materials issue in the past but have been remediated, with approval of the state environmental agency or local regulatory agencies, may qualify as low risk. Examples of low-risk sites include undeveloped or agricultural property, residential property, or benign commercial properties such as office buildings, warehouses, distribution facilities, or municipal facilities with no listed violation.
- Moderate-risk sites are those sites that have some indications of possible hazardous materials issues. A moderate risk site may appear on a database as having a permit to handle hazardous materials but has recorded no violations to date. Another way that a site could be interpreted as moderate risk would be if the environmental records search indicated no listing, but the site is an auto repair facility with visible surface staining. Examples of moderate-risk sites include auto repair garages, welding shops, or manufacturing facilities with minor listings in the environmental databases.
- High-risk sites are those sites that have a high potential for releasing hazardous materials to the soil or groundwater or have a recorded release issue. Examples of high-risk sites include current

service stations, bulk fueling terminals, sites listed in environmental databases as having had a release, or a known release that has not been remediated.

- Indeterminate-risk sites are those which, at the time of report preparation, did not include sufficient information to include a high, moderate, or low ranking. Indeterminate-risk sites often require additional file review or a site-specific investigation to determine the details of hazardous materials issues at the site.

Methods for Determining Significance under CEQA

The significance thresholds for impacts were developed consistent with CEQA Guidelines to determine the significance of potential impacts in relation to hazards and hazardous materials that could result from implementation of the proposed Project. The hazards and hazardous materials analysis are based on CEQA Guidelines Appendix G, Hazards and Hazardous Materials criteria. Accordingly, the following criteria were assessed:

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

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?

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?

d) Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create an adverse hazard to the public or the environment?

e) Would the project result in a safety hazard for people residing or working in the project area (for projects located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport)?

f) Would the project result in a safety hazard for people residing or working in the project area (for projects within the vicinity of a private airstrip)?

g) Would the project impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan?

h) Would the project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

3.8.4 AFFECTED ENVIRONMENT

Airports

Stockton Metropolitan Airport is located at 5000 South Airport Way, which is approximately 4 miles south of the hazards and hazardous materials RSA. The proposed Project is located within the SCK's Airport Influence Area (AIA) of the SCK ALUCP. Prohibited flight hazards addressed in ALUCP include sources of glare; distracting lights; sources of dust, smoke, or water vapor; sources of electrical interference; sources of thermal plumes; and any use that creates an increased attraction for wildlife. Additionally, properties within the AIA are routinely subject to over-flights by aircraft. Therefore, hazards such as tall structures, and visual and electronic forms of interference are prohibited at properties within the AIA (Stockton Metropolitan Airport 2018).

Emergency Response Plan and Evacuation Routes

The San Joaquin County Office of Emergency Services is responsible for the County's EOP. The EOP has been developed pursuant to FEMA and Cal OES guidance. As an annex to the EOP, an Area Plan has been designed to identify responsibilities and provide emergency response coordination at a local level in San Joaquin County. The Area Plan is also intended to provide guidelines to minimize danger to the public, and to protect property and the environment from exposures as a result of a hazardous materials incident (San Joaquin County 2019a). The Area Plan has been developed pursuant to the California Health and Safety Code.

The hazards and hazardous materials RSA are served by two fire stations of the City of Stockton Fire Department. Fire Station 2 currently uses SR 4 and East Lafayette Street as primary routes for emergency response. Fire Station 3 (1116 East First Street), is the fire station nearest the proposed Project. Fire Station 3 accesses the hazards and hazardous materials RSA via South Airport Way. National Fire Protection Association 1710, Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments, sets the fire department standard response time(s).

Fire Hazards

According to the CAL FIRE Fire Hazard Severity Zone map for San Joaquin County, the hazards and hazardous materials RSA is located outside of areas zoned for high and very high fire hazard severity. Stockton is located in a Local Responsibility Area (LRA) Unzoned designation (CAL FIRE 2007). According to the Stockton Zoning Map, the hazards and hazardous materials RSA and vicinity are located in an urban area, and no wildlands are located near the Project Study Area.

Proximity to Schools

The nearest school to the Project site is Jane Frederick Continuation High School, which is approximately 0.04 miles to the northeast of the Project construction limits. Other educational facilities in the hazards and hazardous materials RSA, all located east of Stanislaus Street, include: TEAM Charter School and Academy, Creative Child Care at TEAM Charter, and Gleason Park Head Start.

Hazardous Materials

Site and Vicinity Characteristics

The proposed Project is located in the City of Stockton, in a completely built urban, industrial environment. The hazards and hazardous materials RSA is dominated by commercial, industrial, and residential land uses (City of Stockton 2017).

Soils

As discussed in Section 3.6, *Geology, Soils, and Paleontological Resources*, the Project site is underlain in part by marine sedimentary rocks of the Mesozoic era, and in part by non-marine (continental) sedimentary rocks of the Cenozoic era. The marine sedimentary rocks consist of Upper Cretaceous sandstone, shale, and conglomerate. The non-marine rocks are made up of Pliocene and/or Pleistocene sandstone, shale, and gravel deposits; mostly loosely consolidated (California Department of Conservation 2015a).

Environmental Records Review

An EDR environmental information database search was completed in October 2020. As discussed in *Methods for Data Collection and Analysis*, EDR generated a Radius Map Report for the Project Study Area, in which over 1,600 environmental databases, including hundreds of state, city, and tribal sources, were searched to identify hazardous waste sites along the proposed Project. The database search resulted in 30 moderate to high risk hazardous materials regulatory listings located within a 0.25-mile radius of the hazards and hazardous materials RSA. These sites were narrowed down and classified as moderate to high risk based on their proximity to the Project and the likelihood for contamination onsite (see Table 3.8-1). Some listings are presented more than once in Table 3.8-1 if multiple types of regulatory listings exist. The hazardous materials database listings within 0.25-mile of the proposed Project are also shown geographically in Figure 3.8-1.

Table 3.8-1: Hazardous Materials Listings and Risk Rank Determination

Map ID	Site Name	Address	Regulatory Listings	Groundwater Flows	Distance within RSA	Description of Contamination	Determination/Risk Ranking
9	CAPITOL VENTURE ENTERPRISES	400 AURORA ST S	LUST, CORTESE, CERS	Upgradient	Within the hazards and hazardous materials RSA	LUST Cleanup Site. Completed - Case Closed Status as of 6/3/1996. Soil contamination as a result waste oil, motor oil, hydraulic oil, and lubricating oil releases. Contaminants of concern include toulene, xylene and benzene. Past use at the facility includes chemicals manufacturing. Global ID: T0607700582	High Risk; Closed LUST site. Located in the RSA. Potential for residual soil contamination.
17	BEAULIEU INDUSTRIES	400 S AURORA	ENVIROSTOR, VCP, SWEEPS UST, CA FID UST	Upgradient	Within the hazards and hazardous materials RSA	See above	High Risk; Closed LUST site. Located in the RSA. Potential for residual soil contamination.
21	BEAULIEU CHEM CO	400 S AURORA	SEMS-ARCHIVE	Upgradient	Within the hazards and hazardous materials RSA	See above	High Risk; Closed LUST site. Located in the RSA. Potential for residual soil contamination.
25	SANTA FE RAILWAY	1033 SCOTTS AVE E	LUST, CORTESE, HIST CORTESE, CERS	Upgradient	Within the hazards and hazardous materials RSA	LUST Cleanup Site. Completed - Case Closed Status as of 4/5/1996. Soil contamination as a result of heating oil and fuel oil release. Global ID: T0607700151	High Risk; Closed LUST site. Located in the RSA. Potential for residual soil contamination.
36	SIMS METAL MANAGEMENT	1000 S AURORA ST	RCRA-LQG, LUST, SWEEPS UST, HIST UST, CA FID UST, FINDS, ORTESE, NPDES, CIWQS	Upgradient	Within the hazards and hazardous materials RSA	LUST Cleanup Site. Completed - Case Closed Status as of 3/19/1996. Soil contamination as a result of lead release. Global ID: T0607700071	High Risk; Closed LUST site. Located in the RSA. Potential for residual soil contamination.
45	SANTA FE RAILWAY	748 UNION ST S	LUST, CORTESE, CERS	Upgradient	Within Construction Limits	LUST Cleanup Site. Completed - Case Closed Status as of 8/12/1998. Soil contamination as a result of diesel release. Global ID: T0607700529	High Risk; Closed LUST site. Located in the RSA. Potential for residual soil contamination.
52	STOCKTON WAREHOUSE BLDG	935 SCOTTS AVE E	LUST, CORTESE, HIST CORTESE, CERS	Upgradient	Within Construction Limits	LUST Cleanup Site. Completed - Case Closed Status as of 3/19/1996. Soil contamination as a result of gasoline release. Global ID: T0607700184	High Risk; Closed LUST site. Located in the RSA. Potential for residual soil contamination.
58	VETTER PLUMBING	1035 AURORA ST S	LUST, CORTESE, CERS	Upgradient	Within Construction Limits	LUST Cleanup Site. Completed - Case Closed Status as of 3/19/1996. Soil contamination as a result of gasoline release. Global ID: T0607700184	High Risk; Closed LUST site. Located in the RSA. Potential for residual soil contamination.

Map ID	Site Name	Address	Regulatory Listings	Groundwater Flows	Distance within RSA	Description of Contamination	Determination/Risk Ranking
77	PACIFIC PLUMBING & HEATING	1044 AURORA ST S	LUST, CORTESE, HIST CORTESE, CERS	Upgradient	Within Construction Limits	LUST Cleanup Site. Completed - Case Closed Status as of 7/15/1996. Soil contamination as a result of gasoline release. Global ID: T0607700216	High Risk; Closed LUST site. Located in the RSA. Potential for residual soil contamination.
105	MERLO PROPERTY (FORMER SP RR)	936 WEBER AVE E	LUST, CORTESE, HIST CORTESE, CERS	Upgradient	Within 1/8 Mile of Construction Limits	LUST Cleanup Site. Completed - Case Closed Status as of 6/15/2004. A leaking 1,000-gallon gasoline tank was removed from the site. An aquifer used for drinking water supply is the potential media of concern and the potential contaminant of concern is gasoline. Depth to groundwater is 33 to 35 feet bgs. Groundwater flow gradient is NE-NW. 500 gallons of contaminated water were hauled off for disposal during remediation. Global ID: T0607700814	High Risk; Closed LUST site. Groundwater contamination adjoining RSA. Site is upgradient of the Project with contaminated groundwater potentially migrating to the RSA.
140	HICKINBOTHAM BROS LTD	635 AURORA ST S	LUST, CORTESE, HIST CORTESE, CERS	Upgradient	Within 1/8 Mile of Construction Limits	LUST Cleanup Site. Completed - Case Closed Status as of 6/17/1993. Soil contamination as a result of gasoline release. Petroleum hydrocarbons is the potential contaminant of concern. Global ID: T0607700229	High Risk; Closed LUST site adjoining the RSA. Potential for soil contamination.
143	PRODUCTION CHEMICALS MFR INC	1000 CHANNEL ST E	LUST, CORTESE, CERS	Upgradient	Within 1/8 Mile of Construction Limits	LUST Cleanup Site. Completed - Case Closed Status as of 3/19/1996. Soil is the potential media of concern. Potential contaminants of concern include other solvent or non-petroleum hydrocarbons. Global ID: T0607700667	Moderate Risk; Closed LUST site adjoining the RSA. Potential for soil contamination.
154	FIRE DEPT ENGINE CO #3	1116 1ST ST E	LUST, CORTESE, HIST CORTESE, CERS	Upgradient	Within 1/8 Mile of Construction Limits	LUST Cleanup Site. Completed - Case Closed Status as of 5/30/2000. An aquifer used for drinking water supply is the potential media of concern. Gasoline is the potential contaminant of concern. Global ID: T0607700304	High Risk; Closed LUST site and Brownfields site. Groundwater contamination adjoining RSA. Site is upgradient of the Project with contaminated groundwater potentially migrating to the RSA.

Map ID	Site Name	Address	Regulatory Listings	Groundwater Flows	Distance within RSA	Description of Contamination	Determination/Risk Ranking
156	EL CONCILIO NO. 2 PROPERTY	1116 EAST 1ST STREET	US BROWNFIELDS	Upgradient	Within 1/8 Mile of Construction Limits	See above	High Risk; Closed LUST site and Brownfields site. Groundwater contamination adjoining RSA. Site is upgradient of the Project with contaminated groundwater potentially migrating to the RSA.
165	AUTO INDUSTRIAL PAINT CO INC	1128 E WEBER ST	HWTS, RCRA-LQG, FINDS, ECHO, HAZNET	Upgradient	Within 1/8 Mile of Construction Limits	According to the ECHO Detailed Facility Report, the site is an active LQG and has no identified releases. FRS ID: 110002665447; RCRA ID: CAD097077804	Low Risk; This site has no reported violations but is an active LQG.
183	CITY OF STOCKTON	800 EAST MAIN STREET	LUST, CORTESE, CERS	Downgradient	Within 1/8 Mile of Construction Limits	LUST Cleanup Site. Completed - Case Closed Status as of 7/20/2017. The potential media of concern is soil. Waste oil, motor oil, and lubricating oil are the potential contaminants of concern. Global ID: T10000007010	Moderate Risk; Closed LUST site adjoining the RSA. Potential for soil contamination.
198	DELTA PLATING, INC	818 S. STANISLAUS ST	HWTS, RCRA-LQG, ENVIROSTOR, SWEEPS UST, HIST UST, CA FID UST, EMI, HAZNET, CERS	Downgradient	Within 1/8 Mile of Construction Limits	Tiered Permit and DTSC-Site Cleanup Program. Active Status as of 6/23/2004. Soil is the potential media of concern. Groundwater contamination is unknown. Potential contaminants of concern include Chromium VI, Copper and Compounds, Cyanide (free), and Nickel. Delta Plating Company conducted planting activities at the facility since 1974. On March 16, 2005, DTSC signed a Corrective Action Consent Agreement Docket Number SRPD 04/05 SCC-4324 requiring the Facility to conduct a Preliminary Endangerment Assessment investigation at the site. A PEA Report was submitted and approved by DTSC, which identified elevated levels of metals exceeding background concentrations and recommended soil excavation under an Interim Measures.	High Risk; Active DTSC Site Cleanup Program and Tiered Permit.

Map ID	Site Name	Address	Regulatory Listings	Groundwater Flows	Distance within RSA	Description of Contamination	Determination/Risk Ranking
206	VALLEY MOTORS	800 MAIN ST E	LUST, CPS-SLIC, CORTESE, HIST CORTESE, CERS	Downgradient	Within 1/8 Mile of Construction Limits	LUST Cleanup Site. Completed Case Closed Status as of 7/20/2017. The potential media of concern is soil, and other media is under investigation. Waste oil, motor oil, hydraulic oil and lubricating oil are the potential contaminants of concern. Global ID: T10000007010	High Risk; Closed LUST Clean-up site is adjoining the Project Study Area and there is potential for residual contamination onsite.
219	RAYMOND INVESTMENT CORP	145 GRANT ST S	LUST, CORTESE, HIST CORTESE, CERS	Downgradient	Within 1/8 Mile of Construction Limits	LUST Cleanup Site. Completed - Case Closed Status as of 12/20/1996. Soil is the potential media of concern and diesel is the potential contaminant of concern. Global ID: T0607700277	Moderate Risk due to potential soil contamination adjacent to RSA
221	ISLAMIC CENTER	1130 S. PILGRIM STREET	LUST, CORTESE, CERS	Upgradient	Within 1/8 Mile of Construction Limits	LUST Cleanup Site. Completed - Case Closed Status as of 7/21/2009. Soil is the potential media of concern and heating oil/fuel oil is the potential contaminant of concern. Global ID: T0607795710	Moderate Risk; This site is considered a moderate risk due to distance from site and soil contamination
228	J.C. TRUCKING	1207 AURORA ST S	LUST, SWEEPS UST, CA FID UST, CORTESE, HIST CORTESE, NOTIFY 65, CERS	Upgradient	Within 1/8 Mile of Construction Limits	LUST Cleanup Site. Completed - Case Closed Status as of 6/4/2010. Soil and an aquifer used for drinking water supply are the potential media of concern. Gasoline is the potential contaminant of concern. In May 1992, four underground storage tanks were removed from the site. The tanks were located in two separate tank pit locations. Soil samples for analysis were collected from the tank pits. Laboratory results reported petroleum hydrocarbon impact to the soil and groundwater. No Further Action letter issued June 9, 2010. Global ID: T0607700584	High Risk; This site is a closed LUST cleanup site with a history of groundwater contamination

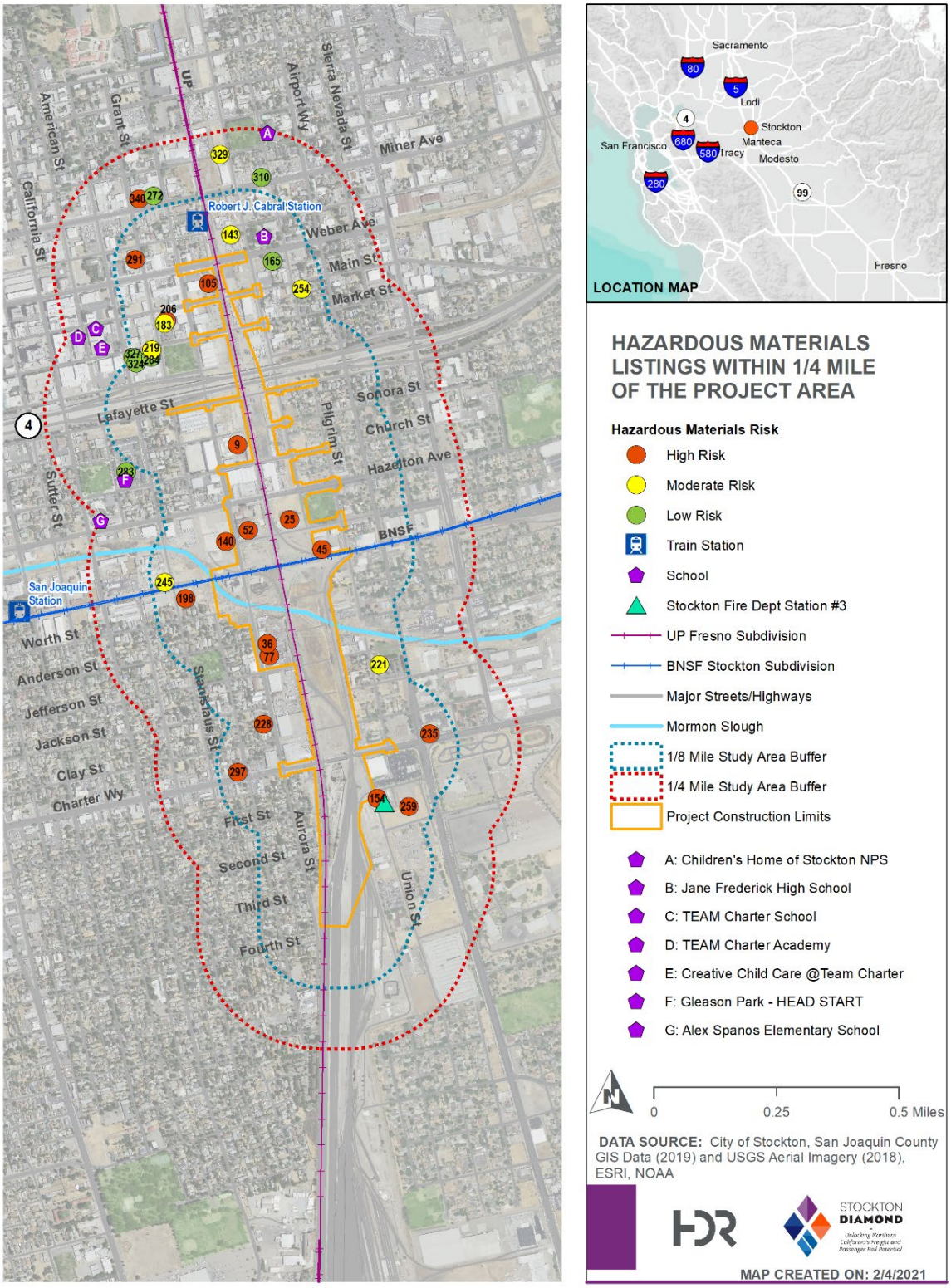
Map ID	Site Name	Address	Regulatory Listings	Groundwater Flows	Distance within RSA	Description of Contamination	Determination/Risk Ranking
235	SHELL (FORMER SS)	1313 CHARTER WAY E	LUST, CORTESE, HIST CORTESE, CERS	Upgradient	Within 1/8 Mile of Construction Limits	LUST Cleanup Site. Completed - Case Closed Status as of 7/23/2009. Potential media of concern is an aquifer used for a drinking water supply. Contaminants of concern include benzene, gasoline, toulene, and xylene. One 8,000-gallon UST, and two 10,000-gallon USTs were removed from the site. Depth to groundwater at the site is between 35.80 and 45.12 feet bgs. The gradient at the site is East, NE, SE. Global ID: T0607700883	High Risk; This site is a LUST Cleanup site near the Project Study Area that resulted in contamination to an aquifer used for drinking water supply
245	CONCRET, INC	749 STANISLAUS ST	LUST, CORTESE, HIST CORTESE, CERS	Downgradient	Within 1/8 Mile of Construction Limits	LUST Cleanup Site. Completed-Case Closed Status as of 8/9/1994. The potential media of concern is soil. Diesel is the potential contaminant of concern. Global ID: T0607700655	Moderate Risk due to distance from the RSA and soil contamination
254	ACME SAW & INDUSTRIAL	1204 MAIN ST E	LUST, CORTESE, HIST CORTESE, CERS	Upgradient	Within 1/8 Mile of Construction Limits	LUST Cleanup Site. Completed - Case Closed Status as of 9/7/1999. Soil is the potential media of concern. Gasoline is the potential contaminant of concern. Global ID: T0607700634	Moderate Risk due to distance from RSA and soil contamination
259	EL CONCILIO NO. 1 PROPERTY	1501 SOUTH AIRPORT WAY	US BROWNFIELDS, FINDS	Upgradient	Within 1/8 Mile of Construction Limits	Brownfields property. Past use is an undeveloped vacant lot that previously had a dirt racetrack on site.	High Risk; Brownfield property with potential for soil contamination
272	DE ROLLO MAZDA	835 MINER AVE E	LUST, CORTESE, HIST CORTESE, CERS	Downgradient	Within 1/4 Mile of Construction Limits	LUST Cleanup Site. Completed - Case Closed Status as of 3/19/1996. Soil is the potential media of concern. Gasoline is the potential contaminant of concern. Global ID: T0607700468	Low Risk due to distance from RSA and soil contamination

Map ID	Site Name	Address	Regulatory Listings	Groundwater Flows	Distance within RSA	Description of Contamination	Determination/Risk Ranking
283	GLEASON PARK APARTMENT	411 S. STANISLAUS STREET	ENVIROSTOR, VCP, DEED	Downgradient	Within 1/4 Mile of Construction Limits	Voluntary Cleanup; DTSC - Site Cleanup Program. Certified O&M - Land Use Restrictions only as of 11/8/2010. Project site was previously occupied by single family homes. A Voluntary Cleanup Agreement was executed in 7/2009. A Preliminary Endangerment Assessment Report dated 3/10 was approved and a Land Use Covenant for the soil contaminant lead was executed on 10/7/10. The site was cleared and developed with multi-family residences with an associated day care. Envirostor ID: 60001130	Low Risk; This site is low risk due to distance from RSA and soil contamination
284	GOODWILL INDUSTRIES	129 GRANT ST S	LUST, CORTESE, CERS	Downgradient	Within 1/8 Mile of Construction Limits	LUST Cleanup Site. Completed - Case Closed as of 3/19/1996. Soil is the potential media of concern. Waste oil, motor oil, hydraulic oil, and lubricating oil are the potential contaminants of concern. Global ID: T0607700178	Low Risk; This site is low risk due to distance from RSA and soil contamination
291	RAYMOND INVESTMENTS, CASE #2	730 CHANNEL - AKA 145 N GRANT STREET CASE #1	LUST, CORTESE, CERS	Downgradient	Within 1/8 Mile of Construction Limits	LUST Cleanup Site. Completed - Case Closed Status as of 10/10/2013. An aquifer used for groundwater supply is the potential media of concern. Gasoline is the potential contaminant of concern. Depth to groundwater is 23.44 to 37.49 feet bgs. Groundwater gradient is East-Northeast. Global ID: T0607772370	High Risk; This site is high risk due to aquifer contamination in proximity to the Project Study Area

Map ID	Site Name	Address	Regulatory Listings	Groundwater Flows	Distance within RSA	Description of Contamination	Determination/Risk Ranking
297	GASCO	749 CHARTER WAY E	LUST, CORTESE, HIST CORTESE, NOTIFY 65, CERS	Downgradient	Within 1/8 Mile of Construction Limits	LUST Cleanup Site. Open - Verification Monitoring Status as of 7/30/2003. An Aquifer used for drinking water supply is the potential media of concern. Contaminants of concern include TPHg and MBTE. Average historic high and low groundwater elevations are 28 and 45 feet bgs, respectively. Global ID: T0607700347Site history: 11/14/1989, Four USTs removed, contamination noted.11/21/1989, Soil contamination verified, Prop 65 and UAR filed.1/12/1990, waste oil UST removed, contamination noted.1/31/1990, MW-1 through MW-3 installed.4/20/1990, Groundwater contamination verified, Prop 65 filed.7/7/1997 to 7/10/2003, SVE remediation system operated to address impacted soil.DPE proposed to address remaining impacted soil and groundwater.	High Risk; This site is high risk due to aquifer contamination in proximity to the Project Study Area
310	ASSOC. ADJUSTEMENT	303 PILGRIM ST N	LUST, CORTESE, HIST CORTESE, CERS	Higher	Within 1/4 Mile of Construction Limits	LUST Cleanup Site. Completed - Case Closed Status as of 10/24/1990. Soil is the potential media of concern. Contaminants of concern include other solvent or non-petroleum hydrocarbon. Global ID: T0607700238	Low Risk; This site is low risk due to distance from RSA and soil contamination
312	HENRY WOLTERS & SON INC	888 LINDSAY ST E	LUST, CORTESE, HIST CORTESE, CERS	Crossgradient	Within 1/8 Mile of Construction Limits	LUST Cleanup Site. Completed - Case Closed Status as of 3/19/1996. Soil is the potential media of concern. Lead is the potential contaminant of concern. Global ID: T0607700080	Low Risk; This site is low risk due to distance from RSA and soil contamination
324	RITE WAY CLEANERS	700 EAST MARKET STREET	SEMS-ARCHIVE	Downgradient	Within 1/8 Mile of Construction Limits	Site was historically a LQG and used as a dry cleaners. Site does not qualify for NPL based on existing information. No violations have been reported. EPA ID: CAN000905714	Low Risk; This site is low risk due to distance from RSA and no violations

Map ID	Site Name	Address	Regulatory Listings	Groundwater Flows	Distance within RSA	Description of Contamination	Determination/Risk Ranking
327	RITEWAY CLEANERS	700 E MARKET ST	HWTS, RCRA-LQG, CERS HAZ WASTE, FINDS, DRYCLEANERS, HAZNET, CERS	Downgradient	Within 1/8 Mile of Construction Limits	See above	Low Risk; This site is low risk due to distance from RSA and no violations
329	UNION ICE CORP	425 UNION ST N	ENVIROSTOR, LUST, VCP, CORTESE, HIST CORTESE, CERS	Upgradient	Within 1/4 Mile of Construction Limits	LUST Cleanup Site. Completed - Case Closed Status as of 11/15/1999. An aquifer used of drinking water supply is the potential media of concern. Waste oil, motor oil, hydraulic oil and lubricating oil are the potential contaminants of concern. Global ID: T0607700342	Moderate Risk; This site is moderate risk due to distance from RSA and aquifer contamination
340	DE ROLLO MAZDA	308 N GRANT ST	HWTS, RCRA-SQG, LUST, HIST UST, FINDS, ECHO, CORTESE, HAZNET, HIST CORTESE	Downgradient	Within 1/4 Mile of Construction Limits	LUST Cleanup Site. Open - Remediation Status as of 3/25/2013. An aquifer used for drinking water supply is the potential media of concern. Gasoline is the potential contaminant of concern. Depth to groundwater is between approximately 20.12 and 38 feet bgs. April 1987 - One UST was removed from the site. October 1988 - one waste oil UST was removed from the site. May 1990 - two USTs located beneath the sidewalk on Miner Avenue were removed. A soil vapor extraction system operated intermittently at the site from May through December 2008.	High Risk; Open LUST Cleanup Site. Potential for groundwater and soil contamination

Figure 3.8-1: Hazardous Materials Listings within the Hazards and Hazardous Materials RSA



3.8.5 ENVIRONMENTAL ANALYSIS

This section describes the proposed Project's potential environmental consequences based on its potential to result in a hazardous materials release, disturb contaminated sites, increase fire hazards, increase hazards to workers and sensitive receptors within the hazards and hazardous materials RSA; and interfere with an emergency response or emergency evacuation plan.

CEQA Significance Findings

An environmental analysis of each threshold identified is provided below:

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

Less than Significant Impact with Mitigation Incorporated. Construction would involve the handling, storage, transport, and disposal of hazardous materials. During construction, the use of hazardous materials and substances would be required, and hazardous wastes would be generated during operation of construction equipment. Hazardous materials used in construction would include, but are not limited to vehicle fuels, asphalt/concrete, lubricants, drilling fluids, and paints. Using these materials, including their routine transport and disposal, carries the potential for an accidental release into the local environment.

Equipment fueling would likely occur using temporary aboveground storage tanks at specified staging and laydown areas. Other potentially hazardous materials used in smaller quantities (for example, paints, asphalt, etc.) would be stored using specialized containment, such as sheds or trailers. If a spill of these materials were to occur, the accidental release could pose a hazard to construction employees, the public, and the environment, depending on the magnitude of the spill and relative hazard of the material released. Although typical construction management practices limit and often eliminate the risk of such accidental releases, the extent and duration of Project construction presents a possible risk to the environment through the routine transport of hazardous materials.

In addition to the use of construction-related hazardous materials, contaminated soil and groundwater are also expected to be encountered during soil excavations and dewatering activities, which would require specialized handling, treatment, and potentially off-site transport and disposal. As shown in Figure 3.8-1, multiple hazardous materials listings exist within the hazards and hazardous materials RSA. For this reason, per California Code of Regulations (CCR) Title 22, Division 4.5 regulations, excavation, handling, transport, and disposal must be conducted by a licensed hazardous waste transporter. Depending on the contaminant and concentrations encountered, contaminated soils would be disposed at an approved facility in accordance with all applicable local, state, and federal laws and regulations. Handling such materials would occur during short-term construction activities and would be subject to federal and state regulations and local health and safety requirements (those specified by SJRRC, railroad operators, or property owners on a case-by-case basis). Typical requirements include temporary storage BMPs, containment in

closed containers, characterization of waste material for disposal, and disposal at facilities that are equipped and licensed to handle waste with specified characteristics.

The potential hazards generated by the routine transport, use, and disposal of hazardous materials, contaminated soils, and/or contaminated groundwater during construction are not anticipated have a significant impact, if adequately managed according to applicable laws, regulations, and industry BMPs.

Short-term impacts would be considered less than significant with mitigation incorporated with the implementation of Measure MM HAZ-1, which specifies the preparation of a Hazardous Materials Management Plan (HMMP) that will outline provisions for safe storage, containment, and disposal of chemicals and hazardous materials, contaminated soils, and contaminated groundwater used or exposed during construction, including the proper locations for disposal.

Longer term operational activities and practices involving routine transport, use, and storage of potentially hazardous materials for railroad maintenance, including shipments in tankers on the railroads, would remain similar to existing conditions. Future operations within the Project Study Area would involve routine transport of hazardous materials and wastes, such as gasoline, brake fluids, and coolants. Heavy maintenance activities would continue off-site at existing maintenance facilities. As discussed, the proposed Project would comply with standard regulations and policies regarding the routine transport, use, storage, handling, and disposal of potentially hazardous materials during operations in order to protect human health and the environment. Therefore, long-term impacts would be considered less than significant with mitigation incorporated.

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?

Less than Significant Impact with Mitigation Incorporated. Under the proposed Project, ground disturbing activities, such as excavations, the removal and addition of tracks, modification of tracks, utility relocations, and installation of new structures may have the potential to disturb contaminated soil or groundwater and result in hazardous materials and wastes impacts. As shown in Table 3.8-1, 36 total sites in the Project Study Area (30 of which are moderate or high risk) have been listed on various hazardous materials databases for two main reasons. First, because they contain documented hazardous materials contamination such as gasoline or diesel LUSTs or removed LUSTs. Secondarily, some sites are listed based on historical land uses, which have, or may have, resulted in localized contaminated soil and groundwater. Ground disturbance and structure demolition at identified hazardous materials sites could result in a hazardous materials release into the environment.

Due to the close proximity of the Project construction limits to existing hazardous materials listings, potential exposure to contaminated soil and/or groundwater or contaminant migration could result. Construction of bridge foundations or other below ground elements could encounter soils contaminated with petroleum and petroleum products, which could release volatile contaminant vapors during excavations or tunneling.

In addition, based on the age (pre-1970s) of many of the buildings within the area, it is possible that these buildings were constructed when asbestos-containing materials (ACM) and LBPs were readily used in exterior coatings. Human exposure to lead has been determined by EPA and OSHA to be an adverse health risk, particularly to young children. Demolition of structures containing LBP requires specific remediation activities regulated by federal (40 CFR 745), state (17 CCR 35001-36100), and local laws and regulations. As a result, the Project could result in the accidental release of ACMs or lead into the environment.

However, with the implementation of Measures MM HAZ-2 through MM HAZ-7, any reasonably foreseeable upset and accident conditions involving the release of hazardous materials would be mitigated. Therefore, with the implementation of Measures MM HAZ-1 through MM HAZ-7, short-term impacts would be considered less than significant with mitigation incorporated.

Future operations at the Stockton Diamond would involve the use of hazardous materials and wastes, such as gasoline, brake fluids, and coolants, that could be subject to accidental releases. The handling of such materials would be subject to federal and state regulations and local health and safety requirements (those specified by SJRRC, railroad operators, or property owners on a case-by-case basis). In general, they require that these materials not be released to the environment or disposed of as general refuse. Collection in proper containers and disposal at approved facilities is required. Therefore, long-term impacts would be considered less than significant, and no mitigation measures are required.

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?

Less than Significant Impact with Mitigation Incorporated. The nearest school to the Project site is Jane Frederick Continuation High School, which is approximately 0.04 miles to the northeast of the Project construction limits. Other educational facilities in the hazards and hazardous materials RSA, all located east of Stanislaus Street, include: TEAM Charter School and Academy, Creative Child Care at TEAM Charter, and Gleason Park Head Start. During construction, commercially available hazardous materials such as gasoline, brake fluids, coolants, and paints would be used and, therefore, potentially expose hazardous releases near schools within 0.25 mile of the proposed Project. However, with the implementation of Measures MM HAZ-1 through MM HAZ-7, short-term impacts would be considered less than significant with mitigation incorporated.

The proposed Project would require multiple construction vehicles to be operated within the Project construction limits over the construction duration, which could result in emissions in the vicinity of an existing school. As described in Section 3.2, *Air Quality*, the construction emissions associated with all the grade separation design options would exceed SJVAPCD's annual significance threshold for NO_X, potentially exposing hazardous emissions near schools within 0.25 mile of the proposed Project. However, with the implementation of Measures BMP AQ-1 and BMP AQ-2 (as referenced in earlier in Section 3.2, *Air Quality*), impacts would be considered less than significant, and no mitigation measures are required.

As discussed previously, future operations within the Project Study Area would involve routine transport of hazardous materials and wastes. However, the proposed Project would comply with standard regulations and policies regarding the routine transport, use, storage, handling, and disposal of potentially hazardous materials during operations in order to protect human health and the environment. Therefore, long-term impacts would be considered less than significant during operations. In addition, as discussed in Section 3.2, *Air Quality*, once the proposed Project is operational, it would result in a net reduction in local and regional air quality emissions. As such, long-term impacts are considered less than significant, and no mitigation measures are required.

d) Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create an adverse hazard to the public or the environment?

Less than Significant Impact with Mitigation Incorporated. As shown in Table 3.8-1, 36 sites have been listed on various hazardous materials databases in the Project hazards and hazardous materials RSA and have been identified with a low- to high-risk ranking based on their potential to affect the environment as a result of excavation activities on acquired parcels where Project-related construction activities would occur. Some of the parcels identified in Table 3.8-1 would either be acquired or used for temporary construction activities and staging where no ground disturbance would occur. 1033 East Scotts Avenue, for example, is listed as a LUST cleanup site and is one of the properties that would be acquired as a part of the proposed Project.

The close proximity of these existing hazardous materials listings to Project related construction activities would carry the potential for encountering contaminated soil and/or groundwater. Construction activities could also cause contaminants to migrate through changes in groundwater flow. Figure 3.8-1 provides the locations of these hazardous materials listings relative to the Project Study Area that may be affected by pre-existing contamination. Additionally, there is the potential to encounter undocumented contamination sources, and deep ground disturbing activities such as construction of bridge foundations, could encounter soils contaminated with petroleum and petroleum products, which could release volatile contaminant vapors during excavations. Implementation of Measure MM HAZ-1 would mitigate potential impacts through the identification of potential soil and groundwater contamination within the Project Study Area.

Construction activities associated with the proposed Project could occur on or near sites included on hazardous materials database listings and have the potential to disturb contaminated soil or groundwater. However, with the implementation of Measures MM HAZ-3 though MM HAZ-6, short-term impacts would be considered less than significant with mitigation incorporated.

Operation of the proposed Project does not require ground disturbance. As such, long-term impacts associated with the 36 sites above would not result in a potential release of hazardous materials. Therefore, no long-term impacts are anticipated.

e) Would the project result in a safety hazard for people residing or working in the Project Area (for projects located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport)?

Less than Significant Impact. The proposed Project is located within the SCK AIA of the SCK ALUCP. The proposed Project would not create additional flight hazards or create additional hazards for people residing in the Project Study Area. The proposed Project does not include new permanent sources of light or glare. Lighting would be required on a temporary basis during construction; however, construction would be limited to daytime hours, when possible, and would be similar to existing sources of light in the Project Study Area.

No Project activities are proposed that would create sources of thermal plumes, electrical interference, or water vapor. Proposed Project activities are industrial in nature and would not attract wildlife.

Tall structures are prohibited at properties within AIA and ALUCP. The proposed Project involves the construction of a flyover structure to provide the vertical clearance required to grade separate the existing UP and BNSP tracks crossing at the Diamond. The height of the flyover structure (40 feet) would not be great enough to create additional hazards to aircraft given how far away the airport is from the apex of the grade separation.

Properties within AIA are routinely subject to over-flights by aircraft. However, this would not result in a safety hazard for people residing or working in the hazards and hazardous materials RSA during construction and operations. Over-flights by aircraft would occur intermittently throughout the day and would therefore not result in increased noise hazards over an extended period of time.

Therefore, short-term and long-term impacts associated with the proposed Project are considered less than significant, and no mitigation measures are required.

f) Would the project result in a safety hazard for people residing or working in the Project Area (for projects within the vicinity of a private airstrip)?

No Impact. There are no private airstrips within the vicinity of the proposed Project. Therefore, the proposed Project would not result in a safety hazard for people residing or working in the Project area. Therefore, no impacts as a result of the proposed Project are anticipated.

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

Less than Significant Impact with Mitigation Incorporated. Roads that would require temporary closures during construction of the at-grade crossings and/or grade separations include:

- East Weber Avenue;
- East Main Street;
- East Market Street;
- East Hazelton Avenue;
- East Scotts Avenue; and
- East Charter Way.

There are two fire stations located within the transportation RSA, Fire Stations 2 and 3. Fire Station 3 (1116 East First Street), is the fire station nearest to the proposed Project. Fire Station 3 (1116 East 1st Street) is located outside the Project construction limits, south of Charter Way and uses South Airport Way as a primary route for emergency response. Fire Station 2 (110 West Sonora Street) currently uses SR 4 and East Lafayette Street as primary routes for emergency response.

In order to reduce impacts to traffic and emergency evacuation routes, including the primary emergency route for City of Stockton Fire Department Fire Station 2, a Construction Transportation Plan (Measure BMP TRA-2 from Section 3.15, *Transportation*) and a Transportation Management Plan (TMP) would be drafted, approved, and filed with the City of Stockton Engineering and Transportation Department, or other agency with jurisdiction over the road, prior to any road closures (Measure BMP TRA-7 from Section 3.15, *Transportation*). The TMP would include alternative routing plans and methods, and details for early public outreach. Impacts would therefore be less than significant. With the implementation of Measures BMP TRA-2 and BMP TRA-7 from Section 3.15, *Transportation*, short-term impacts would be considered less than significant, and no mitigation measures are required.

During operations, permanent closure of East Lafayette Street and East Church Street could impact a primary emergency response route for City of Stockton Fire Department Fire Station 2. Given the proposed closures of East Lafayette Street and East Church Street to through traffic, alternative routes for Fire Station 2 emergency response were considered to identify routes that could provide similar response times in the event of an emergency. With the implementation of Measure MM HAZ-8, which stipulates that prior to construction and closure of East Church Street and East Lafayette Street, SJRRC would consult with applicable agencies and departments providing emergency response to ensure that acceptable response times are maintained during proposed Project operations, long-term impacts would be considered less than significant with mitigation incorporated.

h) Would the project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

No Impact. The proposed Project is located in a highly developed area, and no wildlands are located within or adjacent to the proposed Project. Therefore, there would be no risk from wildland fires and no impacts are anticipated.

3.8.6 BEST MANAGEMENT PRACTICES AND/OR MITIGATION MEASURES

The following mitigation measures associated with hazards and hazardous materials would be applied to the proposed Project.

MM HAZ-1: **Prepare a Construction Hazardous Materials Management Plan (HMMP).** Prior to construction, SJRRC will ensure that an HMMP be prepared, which will outline provisions for safe storage, containment, and disposal of chemicals and hazardous materials, contaminated soils, and contaminated groundwater used or exposed during construction, including the proper locations for disposal. The HMMP shall be prepared to address Project construction limits, and include, but not be limited to, the following:

- A description of hazardous materials and hazardous wastes used (29 C.F.R. 1910.1200)
- A description of handling, transport, treatment, and disposal procedures, as relevant for each hazardous material or hazardous waste (29 C.F.R. 1910.120)
- Preparedness, prevention, contingency, and emergency procedures, including emergency contact information (29 C.F.R. 1910.38)
    - A description of personnel training including, but not limited to: (1) recognition of existing or potential hazards resulting from accidental spills or other releases; (2) implementation of evacuation, notification, and other emergency response procedures; (3) management, awareness, and handling of hazardous materials and hazardous wastes, as required by their level of responsibility (29 C.F.R. 1910)
- Instructions on keeping Safety Data Sheets on site for each on-site hazardous chemical (29 C.F.R. 1910.1200)
- Identification of the locations of hazardous material storage areas, including temporary storage areas, which shall be equipped with secondary containment sufficient in size to contain the volume of the largest container or tank (29 C.F.R. 1910.120)

MM HAZ-2: **Property Acquisition Phase 1 and Phase 2 Environmental Site Assessments.** Prior to or during the right-of-way acquisition phase, SJRRC will ensure that Phase 1 Environmental Site Assessments (ESA) would be conducted in accordance with

standard ASTM methodologies to characterize each parcel. The determination of parcels that require a Phase 2 ESA (for example, soil, groundwater, soil vapor subsurface investigations) would be informed by a Phase 1 ESA and may require coordination with state and local agency officials.

MM HAZ-3: **Prepare a General Construction Soil Management Plan.** Prior to construction, SJRRC will ensure that a General Construction Soil Management Plan be prepared, which will include general provisions for how soils will be managed within the Project construction limits for the duration of construction. General soil management controls to be implemented by the contractor, and the following topics, shall be addressed within the Soil Management Plan:

- General worker health and safety procedures
- Dust control
- Management of soil stockpiles
- Traffic control
- Stormwater erosion control using BMPs

MM HAZ-4: **Prepare Parcel-Specific Soil Management Plans and Health and Safety Plans (HASP).** Prior to construction, SJRRC will ensure that parcel-specific Soil Management Plans be prepared for known contaminated sites and LUST-adjudicated sites for submittal and approval by DTSC. The plans shall include specific hazards and provisions for how soils will be managed for known contaminated sites and LUST-adjudicated sites. The nature and extent of contamination varies widely across the Project construction limits, and the parcel-specific Soil Management Plan shall provide parcel-specific requirements addressing the following:

- Soil disposal protocols
- Protocols governing the discovery of unknown contaminants
- Soil management on properties within the Project construction limits with LUSTs or known contaminants

Prior to construction on individual properties with LUSTs or known contaminants, a parcel-specific HASP shall also be prepared for submittal and approval by DTSC. The HASP shall be prepared to meet OSHA requirements, Title 29 of the C.F.R. 1910.120 and CCR Title 8, Section 5192, and all applicable federal, state, and local regulations and agency ordinances related to the proposed management, transport, and disposal of contaminated media during implementation of work and field activities. The HASP shall be signed and sealed by a Certified Industrial Hygienist, who is licensed by the American Board of Industrial Hygiene. In addition to general

construction soil management plan provisions, the following parcel-specific HASP provisions shall also be implemented:

- Training requirements for site workers who may be handling contaminated material
- Chemical exposure hazards in soil, groundwater, or soil vapor that are known to be present on a property
- Mitigation and monitoring measures that are protective of site worker and public health and safety

Prior to construction, SJRRC shall coordinate proposed soil management measures and reporting activities with stakeholders and regulatory agencies with jurisdiction in order to establish an appropriate monitoring and reporting program that meets all federal, state, and local laws for the Project and each of the contaminated sites.

MM HAZ-5: **LUST Sites and Coordination with DTSC.** Prior to construction on properties with a LUST, SJRRC will ensure that coordination be required with DTSC regarding any plans specified, construction activities, and/or public outreach activities needed to verify that construction activities on properties with LUSTs would be managed in a manner protective of public health.

MM HAZ-6: **Halt Construction Work if Potentially Hazardous Materials/Abandoned Oil Wells are Encountered.** During construction, SJRRC will ensure that contractors will follow all applicable local, state, and federal regulations regarding discovery, notification, response, disposal, and remediation for hazardous materials and/or abandoned oil wells encountered during the construction process.

MM HAZ-7: **Pre-Demolition Investigation.** Prior to the demolition of any structures constructed prior to the 1970s, SJRRC will ensure that a survey be conducted for the presence of hazardous building materials, such as ACMs, LBPs, and other materials falling under the Universal Waste requirements. The results of this survey shall be submitted to SJRRC and applicable stakeholders as deemed appropriate by SJRRC. If any hazardous building materials are discovered, prior to demolition of any structures, a plan for proper removal shall be prepared in accordance with applicable OSHA and San Joaquin County Environmental Health Department requirements. The contractor performing the work shall be required to implement the removal plan, shall be required to have a C-21 license in the State of California, and possess an A or B classification. If asbestos-related work is required, the contractor or their subcontractor shall be required to possess a California Contractor License (Asbestos Certification). Prior to any demolition activities, the contractor shall be required to secure the site and ensure utilities are disconnected.

MM HAZ-8: **Maintenance of Emergency Response Times.** Prior to construction and closure of East Church Street and East Lafayette Street, SJRRC will consult with applicable agencies and departments providing emergency response to ensure that acceptable response times are maintained during proposed Project operation.

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3.9 Hydrology and Water Quality

3.9.1 INTRODUCTION

This section describes the regulatory setting and affected environment for hydrology and water quality, and it identifies potential temporary and permanent effects of the proposed Project during construction and operation. In particular, the hydrology and water quality analysis focuses on hydrology, surface water quality, groundwater, and floodplains in the hydrology and water quality RSA where hydrology and water quality are most susceptible to change as a result of the proposed Project's construction and operation. This section also addresses the proposed Project's consistency with federal, state, and local regulations, policies, and goals.

3.9.2 REGULATORY SETTING

This section identifies the federal, state, and local laws, regulations, and orders that are relevant to the analysis of hydrology and water quality in this EIR. It also states whether the proposed Project would be in compliance with the regulations described herein.

Federal Plans, Policies, and Regulations

Clean Water Act

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States (US) from any point source unlawful unless the discharge is in compliance with a NPDES permit. Known today as the CWA, Congress has amended it several times. In the 1987 amendments, Congress directed dischargers of stormwater from municipal and industrial/construction point sources to comply with the NPDES permit program. Important CWA sections are as follows:

- Sections 303 and 304 require states to promulgate water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity that may result in a discharge to waters of the US to obtain certification from the state that the discharge will comply with other provisions of the act. (Section 401 is most frequently required in tandem with a Section 404 permit request. See below.)
- Section 402 establishes NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the US. The US Environmental Protection Agency (EPA) delegated to the California State Water Resources Control Board (SWRCB) the implementation and administration of the NPDES program in California. The SWRCB established nine RWQCBs. The SWRCB enacts and enforces the federal NPDES program and all water quality programs and regulations that cross regional boundaries. The nine RWQCBs enact, administer, and enforce all programs, including NPDES permitting, within their jurisdictional boundaries. Section 402(p) requires permits for discharges of stormwater from industrial, construction, and municipal separate storm sewer systems (MS4).

- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the US, including wetlands. This permit program is administered by the US Army Corps of Engineers (USACE).

  USACE issues two types of Section 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to authorize a variety of minor project activities with no more than minimal effects. There are also two types of Individual permits: Standard Individual permit and Letter of Permission. For Standard Individual permits, USACE's decision to approve is based on compliance with EPA's Section 404(b)(1) Guidelines (40 CFR Part 230), and whether permit approval is in the public interest. In addition, every permit from USACE, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements. See 33 CFR 320.4.

National Pollutant Discharge Elimination System

The NPDES permit was established in the CWA to regulate municipal and industrial discharges to surface waters of the US. The ultimate objective of the CWA is zero pollutant discharge, but it recognizes the need for a system to regulate non-zero pollutant discharges until the zero-pollutant objective is feasible. CWA Section 402 established NPDES for this purpose. The NPDES regulates all pollutant discharges, particularly point source discharges, to the waters of the US.

MUNICIPAL SEPARATE STORM SEWER SYSTEMS

CWA Section 402(p) requires the issuance of NPDES permits for five categories of stormwater dischargers, including MS4s. EPA defines an MS4 as "any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that are designed or used for collecting or conveying stormwater." Pursuant to CWA Section 402, NPDES permits are required and issued for discharges from an MS4 serving a population of 100,000 or more for the Phase I MS4 Municipal Program and serving a population of 10,000 or more for the Phase II Small MS4 Program.

CONSTRUCTION GENERAL PERMIT

The Construction General Permit (CGP; NPDES No. CAS000002, SWRCB Order No. 2009-0009-DWQ, adopted on November 16, 2010) became effective on February 14, 2011, and was amended by Order No. 2010-0014-DWQ and Order No. 2012-0006-DWQ. The CGP authorizes the discharge of stormwater (and certain unauthorized non-stormwater discharges) from construction sites that disturb 1 acre or more of land, and from smaller sites that are part of a larger, common plan of development. For all projects subject to the CGP, the applicant is required to hire a qualified developer to develop and implement an effective Stormwater Pollution Prevention Plan (SWPPP). All project registration documents, including the SWPPP, are required to be uploaded into the SWRCB's online Stormwater Multiple Application and Report Tracking System at least 30 days prior to construction.

Construction activity that results in soil disturbances of less than 1 acre is subject to this CGP if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. Operators of regulated construction sites are required to develop a SWPPP, to implement soil erosion and pollution prevention control measures, and to obtain coverage under the CGP. The CGP contains a risk-based permitting approach by establishing three levels of risk possible for a construction site. Risk levels are determined during the planning, design, and construction phases, and are based on project risk of generating sediments and receiving water risk of becoming impaired. Requirements apply according to the risk level determined. For example, a Risk Level 3 (highest risk) project would require compulsory stormwater runoff pH and turbidity monitoring, and pre- and post-construction aquatic biological assessments during specified seasonal windows.

WAIVERS FROM CONSTRUCTION GENERAL PERMIT COVERAGE

Projects that disturb over 1 acre, but less than 5 acres of soil may qualify for waiver of CGP coverage. This occurs whenever the R factor of the Watershed Erosion Estimate (= RxKxLS) in tons per acre is less than 5. Within this CGP formula, there is a factor related to when and where the construction will take place. This factor, the R factor, may be low, medium, or high. When the R factor is below the numeric value of 5, projects can be waived from coverage under the CGP.

SECTION 401 PERMITTING

Under CWA Section 401, any project requiring a federal license or permit that may result in a discharge to a water of the US must obtain a 401 certification, which certifies that the project will be in compliance with state water quality standards. The most common federal permit triggering 401 certification is a CWA Section 404 permit, issued by USACE. The 401 certifications are obtained from the appropriate RWQCB, dependent on the project location, and are required before USACE issues a Section 404 permit. In some cases, the RWQCB may have specific concerns with discharges associated with a project. As a result, the RWQCB may prescribe a set of requirements known as waste discharge requirements (WDRs) under the State Water Code (Porter-Cologne Water Quality Control Act). WDRs may specify the inclusion of additional project features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. WDRs can be issued to address both permanent and temporary discharges of a project.

State Plans, Policies, and Regulations

Porter-Cologne Water Quality Control Act (Water Code, §13000 et seq.)

California's Porter-Cologne Water Quality Control Act, enacted in 1969, provides the legal basis for water quality regulation in California. This act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. It predates the CWA and regulates discharges to waters of the State. Waters of the State include more than just waters of the US, such as groundwater and surface waters not considered waters of the US. Additionally, it prohibits discharges of "waste" as defined, and this definition is broader than the CWA definition of "pollutant."

Discharges under the Porter-Cologne Act are permitted by WDRs and may be required even when the discharge is already permitted or exempt under the CWA.

The SWRCB and RWQCBs are responsible for establishing the water quality standards as required by the CWA and regulating discharges to protect beneficial uses of water bodies. Details regarding water quality standards in a project area are contained in the applicable RWQCB Basin Plan. In California, RWQCBs designate beneficial uses for all water body segments in their jurisdictions, and then set standards necessary to protect these uses. Consequently, the water quality standards developed for water body segments are based on the designated use and vary depending on such use. Water body segments that fail to meet standards for specific pollutants are included in a statewide list in accordance with CWA Section 303(d). If a RWQCB determines that waters are impaired for one or more constituents and that the standards cannot be met through point source or non-point source controls (NPDES permits or WDRs), the CWA requires the establishment of a total maximum daily load (TMDL). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

Central Valley Flood Protection Board (California Code Regs. Title 23, Division 1)

The CVFPB exercises regulatory authority within its jurisdiction to maintain the integrity of the existing flood control system and designated floodways by issuing permits for encroachments. The CVFPB has mapped designated floodways along more than 60 streams and rivers in the Central Valley. In addition, in the California Code of Regulations (CCR), Title 23, Table 8.1 shows several hundred stream reaches and waterways that are regulated streams. Projects that encroach in a designated floodway or regulated stream, or within 10 feet of the toe of a state-federal flood control structure (levee), require an encroachment permit and the submission of an associated application, including an environmental assessment questionnaire. A project must demonstrate that it will not reduce the channel flow capacity and that it will comply with channel and levee safety requirements. In cooperation with USACE, the CVFPB enforces standards for the construction, maintenance, and protection of adopted flood control plans that will protect public lands from floods. The jurisdiction of the CVFPB includes the Central Valley, including all tributaries and distributaries of the Sacramento River, the San Joaquin River, and designated floodways (23 CCR § 2). The CVFPB has all the responsibilities and authorities necessary to oversee future modifications as approved by USACE pursuant to assurance agreements with USACE and the USACE Operation and Maintenance Manuals under 33 CFR 208.10 and 33 USC 408.

State Water Resources Control Board and Regional Water Quality Control Boards

The SWRCB adjudicates water rights, sets water pollution control policy, issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWCQBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

Local Plans, Policies, and Regulations

Regional Water Quality Control Board Basin Plan

The proposed Project is under the jurisdiction of the Central Valley RWQCB. The Central Valley RWQCB implements the Water Quality Control Plan (Basin Plan) for the Sacramento River Basin and the San Joaquin River Basin (2018) to regulate surface and groundwater quality in the region. The Basin Plan lists beneficial uses and water quality objectives to protect those uses. The proposed Project is in the Sacramento River Basin and will follow the requirements laid out in that portion of the Basin Plan.

Municipal Separate Storm Sewer Systems

The current NPDES area-wide MS4 permit issued in 2007, Order No. R5-2007-0173, Monitoring and Reporting Program, Provision III.A, applies to both construction and operations, and requires the City of Stockton and the County of San Joaquin (Permittees) to submit a Detention Basin Monitoring Work Plan (Work Plan). The provision states: The Permittees shall update and submit the Detention Basin Monitoring Work Plan, as part of the Storm Water Management Plan, to reflect additional monitoring of the following constituents: pyrethroids, total mercury, and methylmercury in water; pyrethroids and total mercury in sediment. The Work Plan is designed to perform influent, effluent, and sediment chemistry/toxicity monitoring of one detention basin serving multiple land uses. Constituents that shall continue to be sampled include total suspended solids, bacteria, turbidity, total dissolved solids and organophosphate pesticides (chlorpyrifos and diazinon). Monitoring shall be designed to evaluate the effectiveness of the detention basins in removing pollutants of concern and determining whether basins stimulate methylmercury production. The Permittees may propose a joint study with other Central Valley MS4 Permittees if they can demonstrate that data collected in other jurisdictions is applicable to detention basins in the Permittees' jurisdictions.

City of Stockton – Mormon Channel Specific Plan

The City of Stockton adopted and approved the Mormon Channel Specific Plan in August of 1989. The specific plan was created to facilitate minor improvements to provide 100-year flood protection as well as identify the channel's right-of-way, westerly from SR 99 to the Stockton Channel. The plan identifies the future 500-year flood hydraulic capacity of 3000 cubic feet per second within Mormon Channel and includes implementation techniques for the City's General Plan with regards to drainageways and floodways.

Consistency with Plans, Policies, and Regulations

The proposed Project would comply with all relevant federal, state, and local policies and regulations as it relates to hydrology and water quality. The proposed Project would ensure that all hydrology and water quality regulations are followed, which includes compliance with the CWA, Porter-Cologne Water Quality Control Act, and all applicable regional policies.

3.9.3 METHODS FOR EVALUATING IMPACTS

This section defines the hydrology and water quality RSA and describes the methods used to analyze hydrology and water quality within the RSA.

Definition of Resource Study Area

As defined in Section 3.01, Introduction, RSAs are the geographic boundaries within which the environmental investigations specific to each resource topic were conducted. The RSA for impacts on hydrology and water quality encompasses the areas that would potentially be affected by Project construction and operations. The hydrology and water quality RSA encompasses the watersheds and groundwater basins crossed by the proposed Project. These include the Mormon Slough, which is the Project's receiving water body, and the Eastern San Joaquin Groundwater Basin.

Methods for Data Collection and Analysis

A desktop analysis was completed to collect and analyze data related to hydrology and water quality in the Project Study Area. Results of this analysis are provided in the Water Quality Study Report (WRECO 2020). Key sources of information and plans include the following:

- City of Stockton General Plan (2018a, 2019c)
- Caltrans Water Planning Tool (2012)
- Central Valley RWQCB Central Valley Basin (Region 5) Water Quality Control Plan (2018)
- City of Stockton and County of San Joaquin Final Stormwater Quality Control Criteria Plan (2009)
- SWRCB Final 2014/2016 California Integrated Report (Clean Water Act Section 303(d) List / 305(b) Report; 2017)
- EPA Stormwater Phase II Final Rule Construction Rainfall Erosivity Waiver Fact Sheet 3.1, EPA 833-F-00-014 (2012)
- USACE National Levee Database (2020)
- Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for San Joaquin County (2009)
- California Department of Conservation Tsunami Inundation Map (2020), https://www.conservation.ca.gov/cgs/tsunami/maps

This analysis of environmental effects focuses on foreseeable changes to the existing hydrologic conditions in the context of the effects criteria listed below under *Methods for Determining Significance under CEQA*. The analysis considers each of the major Project components, as appropriate, in the context of construction, off-site staging areas, and post-construction operation. Potential hydromodification effects resulting from new impervious surfaces within the proposed Project construction limits were considered based on the site acreage subject to new impervious

surfaces. Hydromodification refers to ecologically significant changes to a stream or river channel's hydrology that stem from altered runoff patterns associated with land use development.

This analysis of water quality effects considers the potential for the proposed Project to affect local and regional water quality. The analysis of water quality includes a discussion of the proposed Project in the context of construction, post-construction operations, and the potential for direct and indirect water quality effects. In considering the potential for adverse water quality effects, this analysis considers existing data, reports, or studies on surface water quality that characterize baseline surface water quality in the hydrology and water quality RSA.

The assessment of construction-related water quality effects considers the proposed Project's sediment discharge risk and receiving water risk as defined in the NPDES CGP. These factors combine to determine the Project Risk Level (1, 2, or 3) according to tables in the CGP (that is, Risk Level 1 is the lowest risk and Risk Level 3 is the highest risk). The CGP Risk Assessment is described further in Appendix D.

Flood hazards, tsunami, and seiche were also assessed in the hydrology and water quality RSA. A tsunami is a catastrophic ocean wave, usually caused by a submarine earthquake, an underwater or coastal landslide, or a volcanic eruption. A seiche is a temporary disturbance or oscillation in the water level of a partially enclosed body of water, especially one caused by changes in atmospheric pressure. Flood risks were determined using FEMA floodplain data and USACE's National Levee Database. Tsunami hazards were assessed using the California Department of Conservation Tsunami Inundation Map (2020), and the likelihood of the occurrence of a seiche was determined based on the proposed Project's topography and proximity to oceans and other large bodies of water.

Methods for Determining Significance under CEQA

The thresholds of significance for impacts were developed consistent with the CEQA Guidelines to determine the significance of potential impacts in relation to hydrology and water quality that could result from implementation of the proposed Project. The hydrology and water quality analysis is based on CEQA Guidelines Appendix G, Hydrology and Water Quality criteria. Accordingly, the following criteria were assessed:

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

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?

c) 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:

    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?

iv. impede or redirect flood flows?

d) Would the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?

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

3.9.4 AFFECTED ENVIRONMENT

Hydrology

Regional Hydrology

Per the California Water Service (Cal Water) watershed delineation in the Water Quality Planning Tool (California Department of Transportation 2012), the hydrology and water quality RSA is mostly within an undefined Hydrologic Sub-Area (number 531.30) of the Lower Calaveras Hydrologic Area and North Valley Floor Hydrologic Unit. The Central Valley RWQCB has identified the Lower Calaveras Hydrologic Area with a Hydrologic Sub-Area number of 531.30 as having beneficial uses for cold freshwater habitat, fish spawning, and fish migration. Note that none of these beneficial uses occurs directly within the hydrology and water quality RSA but may be present further downstream outside the hydrology and water quality RSA.

Precipitation, Climate, and Topography

According to the Köeppen climate classification system, the RSA has a Mediterranean climate, characterized by hot, dry summers and mild, moist winters (George 2015), with the highest amount of precipitation occurring in January. A climate summary for the nearest National Oceanic and Atmospheric Administration (NOAA) weather station with similar elevation and topography to the Project area (Stockton Fire Station #4, COOP ID #048560) reports average annual rainfall for Stockton as 15.37 inches and average temperatures ranging seasonally from 46.3 to 74.5 degrees Fahrenheit (°F; Western Regional Climate Center 2016).

The Calaveras River, the Port of Stockton, and the Delta are the major water bodies near the proposed Project. The Calaveras River flows west toward Suisun Bay, just north of the proposed Project. The topography of the RSA is relatively flat, sloping from east to west toward the San Joaquin River, which is located approximately 0.07 mile west of the RSA. Along East Scotts Avenue and South Pilgrim Street, the elevations in North American Vertical Datum of 1988 (NAVD 88) range from 0 to 26 feet.

Surface Waters

The Project's receiving water body is the Mormon Slough, which the CVFPB oversees, as described in the *Central Valley Flood Protection Board (CGP) Encroachment Permit*, which is why an encroachment permit may be required. Runoff from the proposed Project would be either collected or conveyed through a system of culverts or sheet flows directly into the Mormon Slough, which is shown in Figure 3.9-1.

Historically, Mormon Slough conveyed water frequently and acted as a flood channel, but with the implementation of the Stockton Diverting Canal[1] that re-routed flows, Mormon Slough is now fed mainly through intermittent surface water runoff and does not convey water year-round.

SURFACE WATER QUALITY OBJECTIVES/STANDARDS AND BENEFICIAL USES

Water quality objectives are numeric and narrative objectives used to define the appropriate levels of environmental quality, to protect beneficial uses, and to manage activities that can impact aquatic environments. The Central Valley RWQCB's Basin Plan for the Central Valley Region (2018) does not list beneficial uses for Mormon Slough.

EXISTING WATER QUALITY OF RECEIVING WATERS

Though Mormon Slough is dry and fed mainly through intermittent surface runoff, the *Final 2014/2016 California Integrated Report (Clean Water Act Section 303[d] List / 305[b] Report)* (SWRCB 2017) lists the Mormon Slough as impaired with the pollutants listed in Table 3.9-1. A large portion of the proposed Project falls within the Mormon Slough Stockton Diverting Canal to Commerce Street segment. This segment is outside the Stockton Urban Water Bodies Pathogen TMDL; however, the downstream segment (Mormon Slough from Commerce Street to Stockton Deep Water Channel) is covered under a TMDL.

[1] The Mormon Slough Stockton Diverting Canal was constructed in 1910. The purpose of the artificial channel was to assist with flood control for the City of Stockton and allow water flowing down Mormon Slough to pass through the canal and then to the Calaveras River, bypassing the navigable areas in Stockton.

Figure 3.9-1: Water Bodies within Project Location

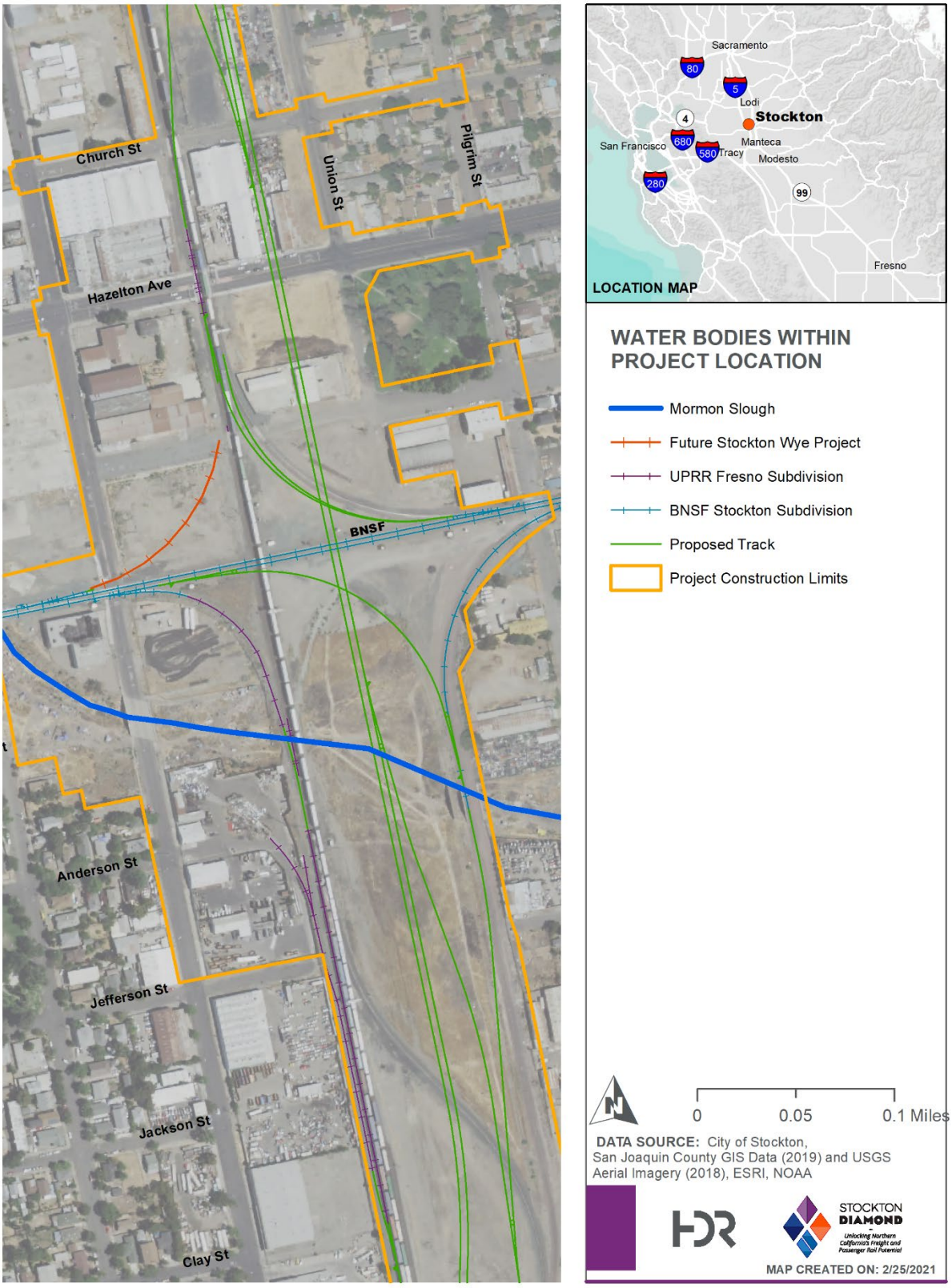


Table 3.9-1: Mormon Slough 303(d) Listed Pollutants

Water Body	Pollutant	Potential Source	Estimated TMDL Completion Date
Mormon Slough (from Stockton Diverting Canal to Bellota Weir—Calaveras River)	Chlorpyrifos	Agricultural	2026
	Toxicity	Source Unknown	2021
Mormon Slough (Stockton Diverting Canal to Commerce Street)	Indicator Bacteria	Source Unknown	2027
Mormon Slough (Commerce Street to Stockton Deep Water Channel; partly in Delta Waterways, eastern portion)	Indicator Bacteria	Source Unknown	EPA Approved May 13, 2008
	Organic Enrichment/Low Dissolved Oxygen	Source Unknown	2027

Groundwater

The proposed Project is in the San Joaquin Valley – Eastern San Joaquin Groundwater Basin. This basin is in the San Joaquin River hydrologic region and comprises an area of approximately 707,000 acres in San Joaquin, Stanislaus, and Calaveras Counties (CVRWQCB 2006). Groundwater accounts for approximately 35 percent of the basin's water supply (Groundwater Exchange 2021).

Floodplains

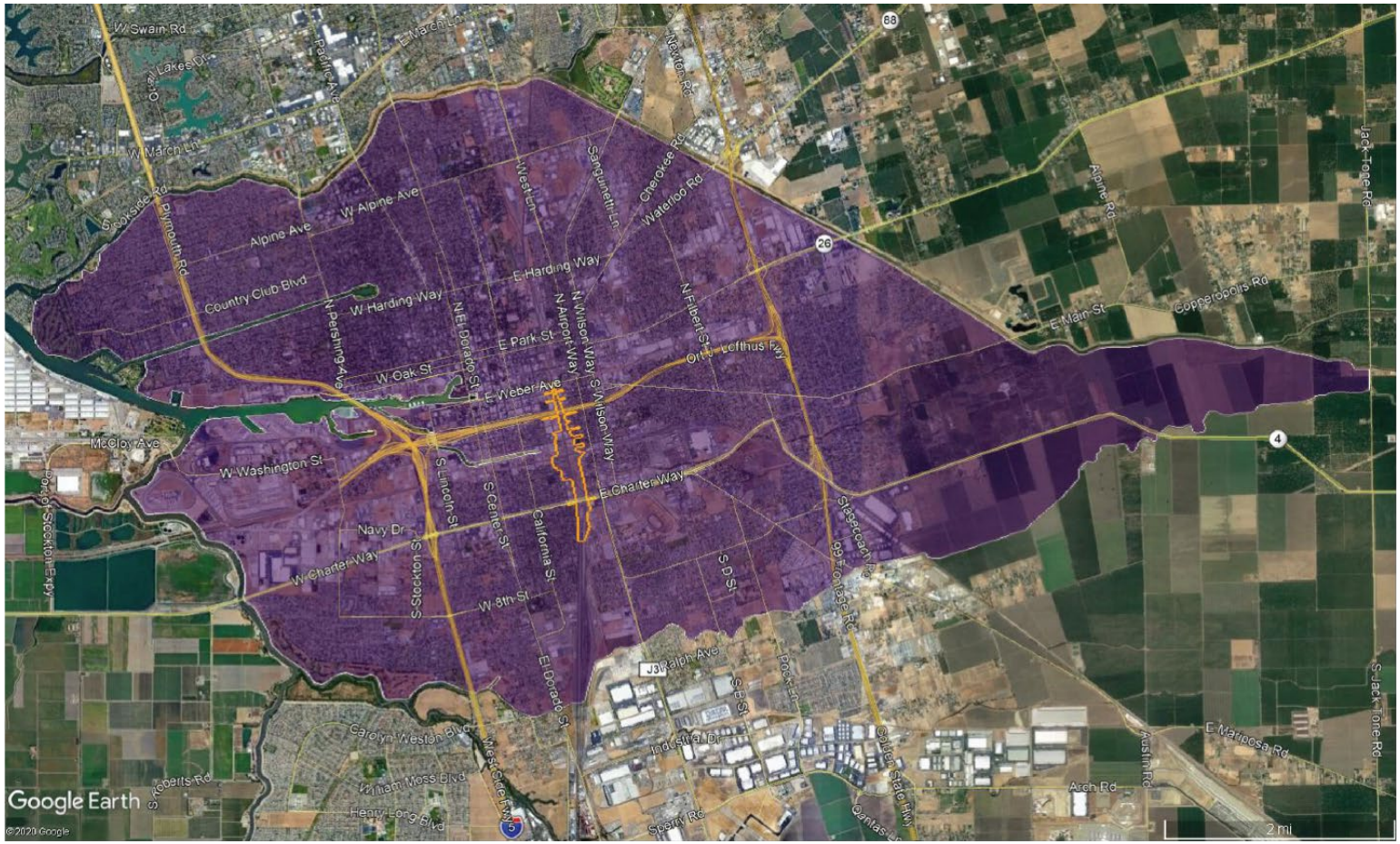
According to USACE's National Levee Database, the Mormon Slough – Calaveras River left bank – Reclamation District 0404 – Duck Creek levee system has been identified as an existing levee system in the portion of the Lower San Joaquin and Tributaries Project and the Duck Creek Project, large-scale levee projects. Based on a May 17, 2019, risk assessment, the Mormon Slough – Calaveras River left bank is classified as a "very high" risk. The Mormon Slough – Calaveras River left bank – Reclamation District 0404 – Duck Creek levee system is comprised of levees authorized by Congress and non-federal levees, levees that were locally constructed and are locally operated and maintained. The maps of the levee system in Figure 3.11-2 and Figure 3.11-3 show the leveed area, which would be prone to flooding in the absence of a levee. The CVFPB, the San Joaquin Area Flood Control Agency, and the San Joaquin County Flood Control and Water Conservation District are the non-federal sponsors and are the responsible agencies for operation and maintenance of the levee system.

The Mormon Slough – Diverting Canal right bank has not been screened for risk level, though it has been identified as an existing levee system in the portion of the Mormon Slough Project, a large-scale levee project authorized by the 87th Congress (House Document Numbered 576). The Mormon Slough – Diverting Canal right bank levee system reduces the risk of flooding for urban,

rural, and agricultural areas in San Joaquin County from flood waters in the Mormon Slough, Diverting Canal, and Calaveras River.

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) identifies the Project site San Joaquin Area Flood Control Agency to be within FIRM Number 06077C0460F (see Figure 3.9-4). As shown in Figure 3.9-4, the railroad intersection is in Zone X (levee protection). Depending on where the Project limits extend, the proposed Project may cross into the Zone X region to the south. The proposed Project will likely also cross the Zone A region along Mormon Slough. Zone A represents areas subject to inundation by the 100-year or 1 percent annual chance flood event generally determined using approximate methods. Zone X represents areas protected from the 1 percent annual chance flood by levees. Because detailed hydraulic analyses have not been performed, no base flood elevations or depths are shown.

Figure 3.9-2: Mormon Sough – Calaveras River Left Bank



MORMON SLOUGH CALAVERAS LEFT BANK

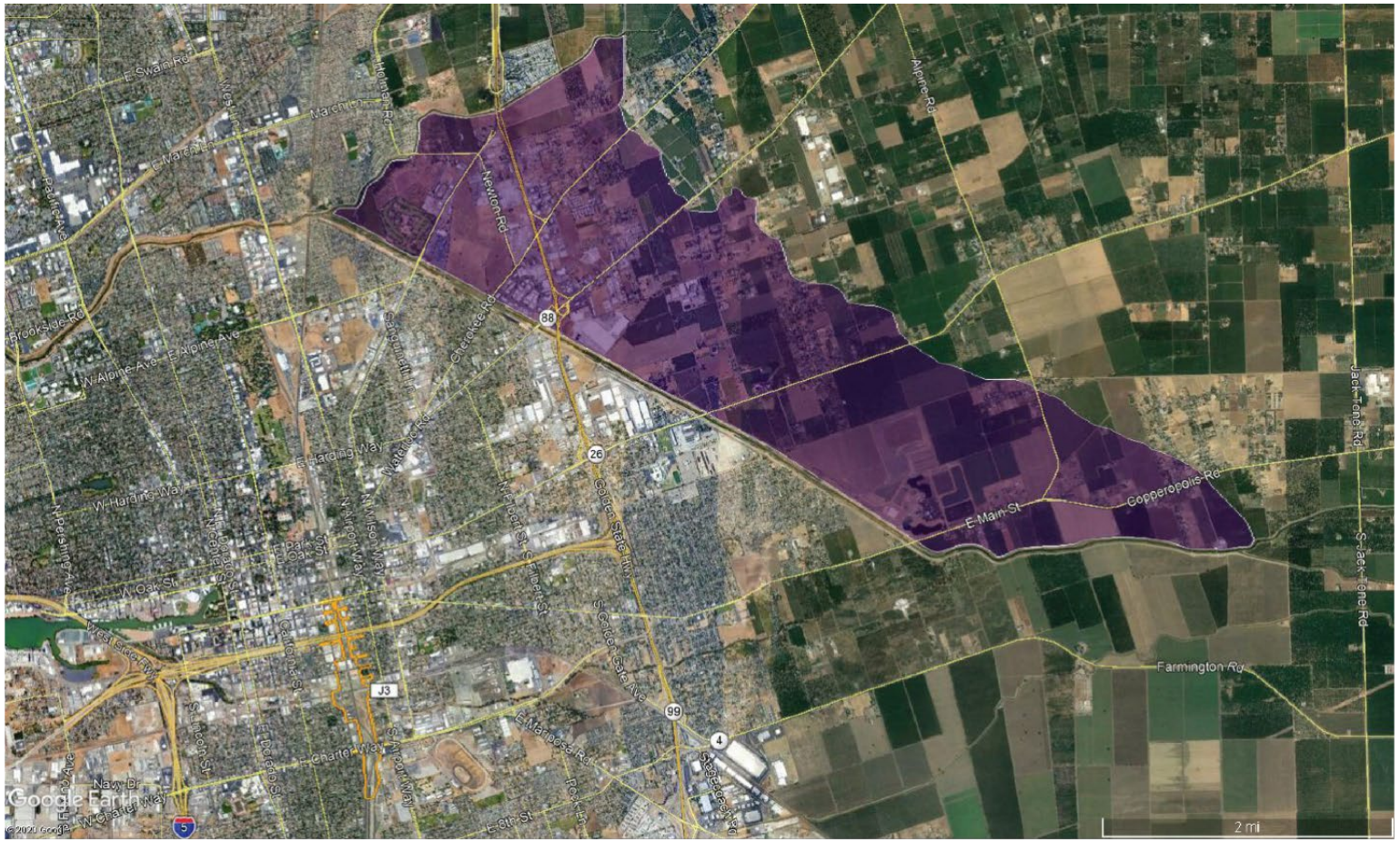
DATA SOURCE: USACE, Google Earth 2020

Project Construction Limits

Leveed Area

CREATED ON: 01/27/2021

Figure 3.9-3: Mormon Sough – Diverting Canal Right Bank



MORMON SLOUGH DIVERTING CANAL RIGHT BANK

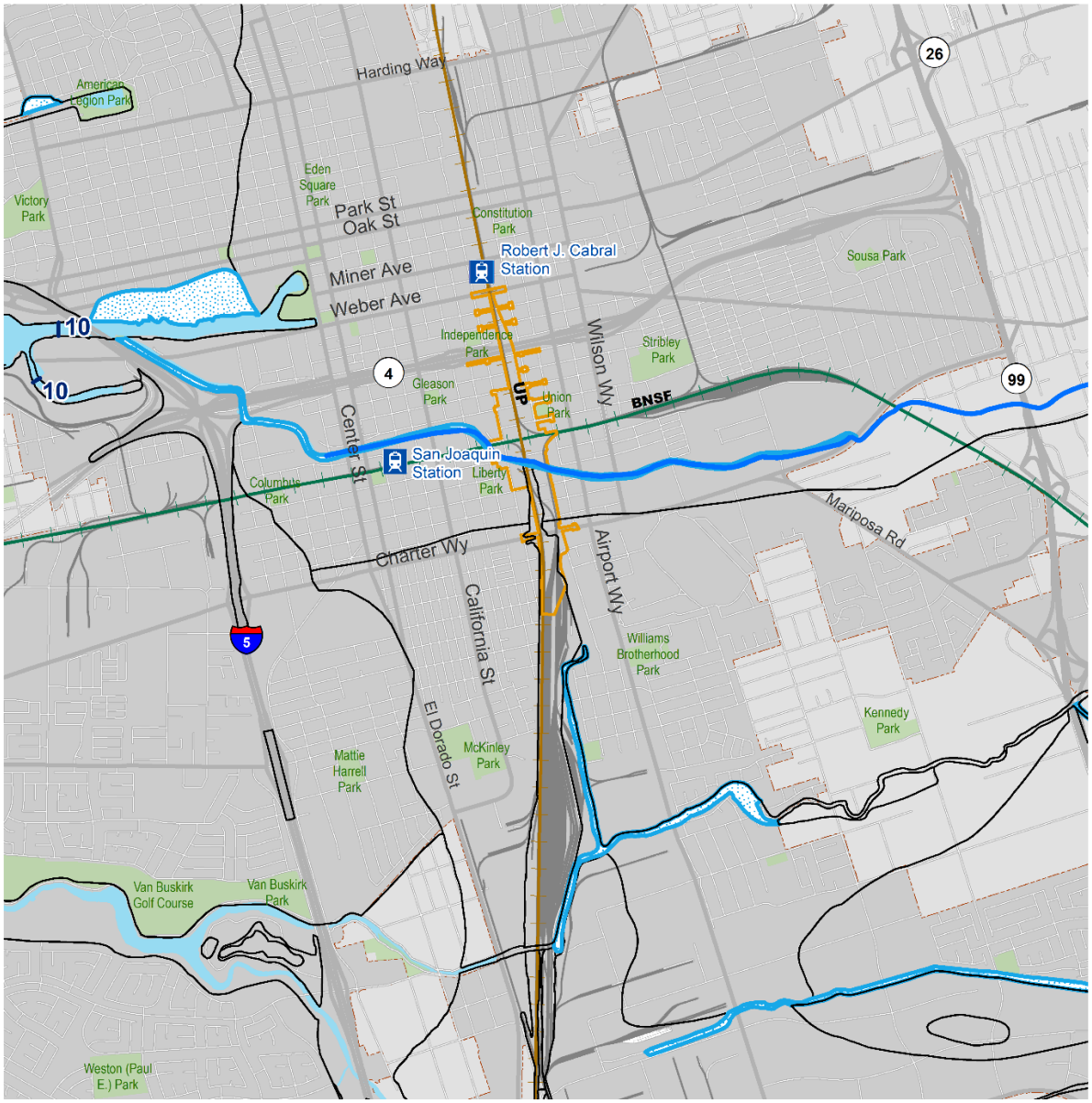
DATA SOURCE: USACE, Google Earth 2020

Project Construction Limits

Leveed Area

CREATED ON: 01/27/2021

Figure 3.9-4: FEMA Floodplain



FEMA FLOODPLAIN

N

0 0.5 1 Miles

DATA SOURCE: City of Stockton and San Joaquin County GIS Data

Train Station
UPRR Fresno Subdivision
BNSF Stockton Subdivision
Major Streets/Highways
Mormon Slough
Base Flood Elevation

Flood Zone
A
X, Area of Minimal Flood Hazard
Project Construction Limits
Park
Stockton

HDR

STOCKTON DIAMOND
Unlocking Northern California's Freight and Passenger Rail Potential

MAP CREATED ON: 2/4/2021

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Figure 3.9-5: FEMA Floodplains

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3.9.5 ENVIRONMENTAL ANALYSIS

This section describes the potential environmental consequences on hydrology and water quality as a result of implementation of the proposed Project. It includes an analysis of the proposed Project's potential to degrade water quality, alter hydrology, increase flood hazards, impact groundwater resources, impede groundwater recharge, and result in hazards from tsunami and seiche in the hydrology and water quality RSA.

CEQA Significance Findings

An environmental analysis of each threshold identified is provided, below:

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

Less than Significant Impact. During construction activities, the proposed Project would implement Measure BMP HYD-1 for Stormwater Management; Measures BMP HYD-2 and BMP HYD-3 requiring the preparation and compliance with a SWPPP and Industrial SWPPP, respectively; and other standard applicable Construction Site Project Feature BMPs, Design Prevention and Pollution, Project Feature BMPs, and Treatment BMPs identified in Tables 3.9-2 through 3.9-4.

Table 3.9-2: Construction Site Project Feature BMPs

Project Feature (BMP)	Purpose
Soil Stabilization	
Temporary Cover	Plastic covers for stockpiles.
Sediment Control	
Temporary Fiber Rolls	Degradable fibers rolled tightly and placed on the toe and face of slopes to intercept runoff.
Temporary Silt Fence	Linear, permeable fabric barriers to intercept sediment-laden sheet flow. Placed downslope of exposed soil areas, and along channels and Project perimeter.
Temporary Drainage Inlet Protection	Runoff detainment devices used at storm drain inlets that are subject to runoff from construction activities.
Tracking Control	
Street Sweeping	Removal of tracked sediment to prevent it from entering a storm drain or watercourse.
Waste Management and Materials Pollution Control	
Temporary Concrete Washout Facilities	Specified vehicle washing areas to contain concrete waste materials.
All other anticipated waste management and materials pollution control measures are covered under Job Site Management.	
Job Site Management	

Project Feature (BMP)	Purpose
General measures covered under job site management include: ▪ spill prevention and control; ▪ materials management; ▪ stockpile management; ▪ waste management; ▪ hazardous waste management; ▪ contaminated soil; ▪ concrete waste; ▪ sanitary and septic waste and liquid waste.	Non-stormwater management consists of: ▪ water control and conservation; ▪ illegal connection and discharge detection and reporting; ▪ vehicle and equipment cleaning; ▪ vehicle and equipment fueling and maintenance; ▪ paving, sealing, saw cutting, and grinding operations; ▪ thermoplastic striping and pavement markers; ▪ concrete curing and concrete finishing.
Miscellaneous job site management includes: Training of employees and subcontractors Proper selection, deployment, and repair of construction site BMPs	

Table 3.9-3: Potential Design Pollution Prevention Project Feature BMPs

Project Feature (BMP)	Purpose
Slope/Surface Protection Systems	
Hydroseed	Water-based mixture of wood/paper fiber (straw), stabilizing emulsion (tackifier), fertilizer, compost, and native seed mix to be applied on unvegetated slopes.
Permanent Fiber Rolls	Degradable fibers rolled tightly and placed on the toe and face of slopes to intercept runoff.
Erosion Control Netting/Blankets	Netting/blankets placed on steep slopes to reduce soil erosion.
Preservation of Existing Vegetation	
Protection of Existing Vegetation	Protection of existing trees and/or landscaped areas that would not be disturbed from Project activities.

Table 3.9-4: Treatment BMPs

Project Feature (BMP)	Purpose
Biofiltration/Bioretention Systems	Vegetated channels/strips that intercept stormwater runoff and remove sediment and pollutants through infiltration.
Detention Devices	Areas that intercept stormwater runoff and remove sediment and pollutants through detention/infiltration.
Media Filters	Sand filters that remove sediment and total suspended solids (metals, trash, nutrients).
Trash Control Devices	Devices designed to remove trash and other pollutants from stormwater runoff.

The Project would require regulatory permits from USACE (Section 404), RWQCB (Section 401), and CDFW (Streambed Alteration Agreement). With the implementation of requirements within Section 404, 401, and the Streambed Alteration Agreement, Measures BMP HYD-1 through HYD-3, and other standard treatment BMPs, the proposed Project would comply with applicable permitting requirements during construction. Therefore, short-term impacts on water quality would be considered less than significant, and no mitigation is required.

Compliance with standard federal, state, and local regulations and policies related to water quality would occur during operation of the proposed Project. Therefore, long-term impacts on water quality would be considered less than significant, and no mitigation is required.

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?

Less than Significant Impact. The proposed Project is located in the San Joaquin Valley – Eastern San Joaquin Groundwater Basin. The Project would not involve the use of groundwater, which could otherwise carry the potential for interference with current groundwater recharge, possible depletion of groundwater supplies, or interference with adjacent wells. Although groundwater dewatering may be necessary during construction in localized areas, these activities would result in only temporary reductions in groundwater levels within and directly adjacent to construction areas. Any localized lowering of the groundwater table would be anticipated to recover quickly following pumping and would not cause a net deficit in aquifer volume or a lowering of the groundwater table.

The addition of impervious surfaces associated with the proposed Project would have the potential to reduce groundwater recharge. However, impacts would be localized and would not have substantial implications for the greater groundwater basin. Therefore, short-term and long-term impacts are considered less than significant, and no mitigation is required.

c) 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:

i. Result in substantial erosion or siltation on- or off-site?

Less than Significant Impact. Temporary water quality impacts could result from sediment discharge from disturbed soil areas (DSA) and construction near water resources or drainage facilities that discharge to water bodies where construction activities would alter drainage and runoff patterns.

Proposed Project activities would not result in the alteration of a stream or river, as the construction of the proposed Project would require either a clear span flyover bridge or a bridge with piers to span the Mormon Slough and associated floodplain. Existing drainage structures along the Mormon Slough would remain in place after construction of the proposed Project. Pipe culverts under the existing UP main line immediately downstream (west) of the flyover alignment would also be left in place to support the remaining at-grade

connection track to BNSF. New drainage structures for passing flows beneath the railroad flyover may be pipe culverts, box culverts, or a bridge. Pipe and box culverts would require fill within the existing channel.

Prior to construction, the contractor would prepare a Stormwater Management and Treatment Plan (Measure BMP HYD-1), a construction SWPPP (Measure BMP HYD-3), an industrial SWPPP (Measure BMP HYD-3), and a flood protection plan (Measure BMP HYD-2). Additionally, the Project would comply with mandates set forth in the CGP and MS4 Permit. A CVFPB Encroachment Permit may also be required because the Project's receiving water body is Mormon Slough, which CVFPB oversees. With the implementation of Measures BMP HYD-1 through BMP HYD-4, and mandates set forth in the CGP and MS4 Permit, short-term impacts would be considered less than significant, and no mitigation is required.

Permanent impacts on water quality could result from the addition of new impervious area. This additional impervious area prevents runoff from naturally dispersing and infiltrating the ground, resulting in increased concentrated flow. For the proposed Project, the potential new permanent impervious area values are shown in Table 3.9-5. These values would be further refined during the proposed Project final design phase once the limits of grading, construction staging locations, roadway geometry, and other areas of improvements have been further developed.

Table 3.9-5: Permanent Impervious Area Values in the Project Construction Limits

Proposed Project	Approximate New Impervious Area (acres)
East Charter Way to Mormon Slough	0.94
Mormon Slough to East Scotts Avenue	0.50
East Scotts Avenue to East Hazelton Avenue	0.19
East Hazelton Avenue to East Market Street	0.77
Total	**2.40**

As shown in Table 3.9-5, approximately 2.40 acres of impervious surfaces would be added, depending on the bridge structure type chosen. General measures related to water quality would include Construction Site BMPs during construction to prevent construction materials or debris from entering surface waters or channels in the proposed Project vicinity. Therefore, long-term impacts would be considered less than significant, and no mitigation is required.

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

Less than Significant Impact. With the implementation of the Stockton Diverting Canal, the area is dry most of the year and receives water mainly through surface water runoff during

large storm events. As stated above, the proposed Project would comply with mandates set forth in the applicable permits, such as the MS4 Permit, CGP, and CVFPB Encroachment Permit. The proposed Project also involves the development and implementation of a SWPPP and Stormwater Management Plan that would reduce the potential for flooding and would implement standard BMPs to reduce the potential for surface water runoff and flooding. With the implementation of Measures BMP HYD-1 through BMP HYD-4, and mandates set forth in CGP and MS4 Permit, short-term impacts would be considered less than significant, and no mitigation is required.

The addition of up to 2.40 acres of impervious surfaces would not cause flooding. As described in Measure BMP HYD-2, prior to construction the contractor would prepare a flood protection plan for SJRRC review and approval. The proposed Project would comply with mandates set forth in applicable permits and would implement BMPs to reduce the potential of polluted runoff and stormwater. As such, long-term impacts would be less than significant, and no mitigation is required.

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?

Less than Significant Impact. During construction, construction flows to existing drainage systems may occur, as well as potential sources of polluted runoff. Implementation of Measures BMP HYD-1 through BMP HYD-4 and mandates set forth in CGP and MS4 Permit would help prevent runoff from entering nearby existing drainage systems. If necessary, clear water diversions would be implemented to work in the Mormon Slough for the construction of new structures.

The Mormon Slough crosses the proposed alignment just north of Anderson Street. A drainage structure would be constructed in this location to span the Mormon Slough. Existing drainage structures along the Mormon Slough would remain in place after construction of the proposed slough structure. Further, pipe culverts under the existing UP main tracks immediately downstream (west) of the flyover alignment would be left in place to support the remaining at-grade connection track to BNSF.

SJAFCA modeling of future flows noted an additional culvert is required under the Fresno Subdivision tracks, and SJAFCA was planning to add two more pipe openings under the tracks at this location to accommodate future flows. These new pipe openings are not part of the proposed Project.

Hydraulic analyses within the slough would be conducted prior to determining the final design of the proposed drainage structure using three separate criteria: (1) Union Pacific Railroad current 50- and 100-year flood flows, (2) a projected future flow of 1,550 cubic feet per second (according to SJAFCA's *Strategic/Capital Plan*) and (3) City of Stockton Specific Plan future flow of 3,000 cubic feet per second (City of Stockton 1989) through the Mormon Slough for the existing and proposed crossings. The proposed Project would be designed to

allow for current and both projected future flow cases but would leave the existing Fresno Subdivision culverts in place.

Drainage structures for passing flows beneath the railroad flyover may be box culverts, arch openings, or a bridge. Any structure designed for this location would be designed for both existing conditions and proposed future conditions, provided by SJAFCA and the City of Stockton. Box culverts or arch openings would require fill within the existing dry channel, but since it is a dry channel this may not be a concern.

As discussed in Table 3.9-4, the Project would install treatment BMPs, including trash control devices such as a trash capture rack. A trash capture rack is proposed on both the upstream and downstream ends of the proposed new crossing over the Mormon Slough for the box culvert and arch crossing design options. The trash capture rack will help prevent trash and debris from entering the channel. This treatment BMP has been modeled and accounted for in the hydraulic analysis for the crossing over the channel.

Based on informal consultation with NOAA Fisheries, drainage structures associated with the proposed Project must preserve fish passage and important habitat characteristics for future Mormon Slough restoration efforts. Therefore, the drainage structures associated with the proposed Project at this location would be constructed by maintaining a natural substrate channel free of rip-rap.

The proposed Project will add up to 2.40 acres of impervious surfaces; however, the permanent increase in impervious surface is not anticipated to cause exceedance to planned stormwater drainage systems, nor would it provide substantial sources of polluted runoff during operation of the proposed Project. The proposed Project currently plans to drain the added impervious surfaces to proposed BMPs that would treat the runoff and promote infiltration, to the extent practicable, before discharging to nearby drainage systems. These BMPs would also increase the time of concentration for the flows to reduce the peak flows and minimize any increases in flows the downstream drainage systems would take. The Project team will develop a Project specific drainage report during final design that is consistent with the standards set by the City of Stockton, including those found in the City's Mormon Channel Specific Plan, as identified in Measure BMP HYD-5.

Therefore, with the implementation of Measures BMP HYD-1 through BMP HYD-54, and mandates set forth in CGP and MS4 Permit, short-term impacts and long-term impacts to existing or planned drainage systems would be considered less than significant, and no mitigation is required.

iv. Impede or redirect flood flows?

Less than Significant Impact. With implementation of Measure BMP HYD-2, Flood Protection, and compliance with applicable permits, impacts on the redirection of flood flows during construction and operation would be less than significant, and no mitigation would be required.

d) Would the project result in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Less than Significant Impact. According to the California Department of Conservation (2020), the Project Study Area is not located in a tsunami inundation area. Further, given the flat topography of the Project Study Area and inland location of the proposed Project, which is away from oceans or other large bodies of water, a seiche is unlikely to occur.

FEMA FIRMs were researched for the proposed Project; the FIRM at the proposed Project site is FIRM Number 06077C0460F, effective on October 16, 2009. As shown in Figure 3.9-4, the railroad intersection is in Zone X (levee protection). The Project Study Area crosses the Zone A region along Mormon Slough and into the Zone X region on either side of the channel. Zone A represents areas subject to inundation by the 100-year or 1 percent annual chance flood event, which is generally determined using approximate methods. Zone X represents areas protected from the 1 percent annual chance flood by levees. The proposed Project would be designed in accordance with USACE standards. Therefore, short-term or long-term impacts would be considered less than significant, and no mitigation is required.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less than Significant Impact. Impacts on a groundwater management plan and a water quality control plan would be less than significant. The proposed Project would not require the use of groundwater. Dewatering activities associated with construction would be temporary and localized. The proposed Project would comply with federal, state, and local regulations and policies related to water quality. The proposed Project would also implement BMPs to protect water quality and comply with applicable permitting requirements. Therefore, short-term and long-term impacts would be considered less than significant, and no mitigation is required.

3.9.6 BEST MANAGEMENT PRACTICES AND/OR MITIGATION MEASURES

No mitigation is required for hydrology and water quality. However, the following BMP measures relevant to hydrology and water quality are recommended for the proposed Project:

BMP HYD-1: **Stormwater Management and Treatment Plan.** Prior to construction, SJRRC will ensure that the contractor prepares a Project specific stormwater management and treatment plan and all aspects of the Stormwater Management and Treatment Plan are implemented during construction activities.

BMP HYD-2: **Construction Stormwater Pollution Prevention Plan.** Prior to construction (that is, any ground-disturbing activities), SJRRC will ensure that the contractor would comply with SWRCB CGP, which requires the preparation and implementation of a SWPPP. The construction SWPPP would propose BMPs to minimize potential short-term increases in sediment transport caused by construction, including erosion control

requirements, stormwater management, and channel dewatering for affected stream crossings.

BMP HYD-3: **Industrial Stormwater Pollution Prevention Plan.** Prior to construction of any facility classified as an industrial facility, SJRRC will ensure that the contractor will comply with existing water quality regulations. The stormwater general permit requires preparation of a SWPPP and a monitoring plan for industrial facilities that discharge stormwater from the site, including vehicle maintenance facilities associated with transportation operations. The permit includes performance standards for pollution control.

BMP HYD-4: **Flood Protection.** Prior to construction, SJRRC will ensure that the contractor prepares and implements a flood protection plan for the proposed Project.

BMP HYD-5: **Drainage Report.** SJRRC will ensure that a project-specific drainage report will be developed in coordination with the City of Stockton during final design. The Drainage Report will be prepared consistent with standards set by the City of Stockton.

3.10 Land Use and Planning

3.10.1 INTRODUCTION

This section describes the regulatory setting and affected environment for land use and planning and identifies potential temporary and permanent effects of the proposed Project during construction and operation. In particular, the land use and planning analysis focuses on the communities within the Project construction limits to provide an understanding of how existing and future land uses would be affected by construction and operation of the proposed Project. It also evaluates the impacts on land use and planning as a result of the proposed Project. This section addresses the proposed Project's consistency with applicable federal, state, and local regulations, policies, and goals.

3.10.2 REGULATORY SETTING

This section identifies the applicable federal, state, and local laws, regulations, and orders that are relevant to the analysis of land use and planning in the EIR. It also states whether the proposed Project would be in compliance with the regulations described here.

State Plans, Policies, and Regulations

California State Planning and Zoning Law (Gov. Code 65000 to 66037)

The California State Planning and Zoning Law delegates most of state's local land use and development decisions to the respective city or county and describes the laws that pertain to the land use regulations set by the local government's general plan requirements, specific plans, and zoning.

Sustainable Communities and Climate Protection Act of 2008 (SB 375, Chapter 728)

SB 375 requires regional planning agencies to include an SCS or alternative planning strategy in the regional transportation plan. This strategy coordinates land use planning with meeting the regional greenhouse gas emissions reduction targets set by the California ARB.

Local Plans, Policies, and Regulations

San Joaquin County General Plan (2016)

San Joaquin County adopted the *San Joaquin County General Plan* in December 2016. The General Plan provides a comprehensive framework to address current issues in the County as well as the vision for the future and strategies to achieve such visions. The general plan includes the following pertinent goals and policies:

- **Goal LU-1.8:** Support for Alternative Transportation Modes: The County shall encourage land use patterns that promote walking and bicycling and the use of public transit as alternatives to the personal automobile.
- **Goal LU-1.14:** Incentives and Streamlined Development: The County shall support expanded incentives and CEQA streamlining opportunities for projects that are consistent with the adopted SJCOG RTP/SCS and implement the objectives of SB 375.

Envision Stockton 2040 General Plan

The City of Stockton adopted the *Envision Stockton 2040 General Plan* on December 4, 2018. The general plan provides a comprehensive, long-range statement of the jurisdiction's land use policies for the coming decades. The plan is the government's primary tool to guide physical change within the city limits, and some cases beyond in a sphere of influence where City services may someday be provided. It intends to set goals, policies, and actions that can boost the economy and improve community facilities and well-being. The general plan includes the following pertinent goals and policies:

- **Policy LU 3.2:** Retain narrower roadways and reallocate right-of-way space to preserve street trees and mature landscaping and enhance the pedestrian and bicycle network within and adjacent to residential neighborhoods.
- **Policy LU 6.3:** Coordinate, to the extent possible, upgrades and repairs to roadways with utility needs, infrastructure upgrades, and bicycle and pedestrian improvements.
- **Policy LU 3.3:** Maintain or expand the amount of Public Park and open space area currently available in each neighborhood.
- **Policy CH 1.1:** Maintain walking and wheeling facilities and parks that are safe and accessible in all areas of Stockton.
- **Goal TR-1:** Provide an integrated transportation system that enables safe and efficient movement of people and goods for all modes of travel.
- **Policy TR-1.2:** Enhance the use and convenience of rail service for both passenger and freight movement.
- **Goal TR-3:** Design transportation infrastructure to help reduce pollution and vehicle travel and its associated policies and actions.

City of Stockton – Mormon Channel Specific Plan

The City of Stockton adopted and approved the Mormon Channel Specific Plan in August of 1989. The plan was created to facilitate minor improvements to provide 100-year flood protection as well as the channel's right-of-way westerly from SR 99 to the Stockton Channel. The plan identifies the Mormon Channel's hydraulic capacity and includes implementation techniques for the City's General Plan with regards to drainageways and floodways.

Consistency with Plans, Policies and Regulations

The proposed Project would comply with all relevant federal, state, and local policies and regulations as they relate to land use. The proposed Project would ensure that all land use and zoning regulations are followed, which includes compliance with the California State Planning and Zoning Law and all applicable goals and policies set forth by the County and City general plans.

3.10.3 METHODS FOR EVALUATING IMPACTS

This section defines the land use and planning RSA and describes the methods used to analyze the existing and planned land uses within the RSA and to determine the construction and operational impacts on these land uses.

Definition of Resource Study Area

The RSA for the evaluation of impacts on land use and planning encompasses the areas directly or indirectly affected by construction and operation of the proposed Project. These areas include the Project construction limits plus a half-mile buffer to account for potential indirect impacts on land use.

Methods for Data Collection and Analysis

For this analysis, information was collected on land use designation and zoning within the RSA. Geographic information system (GIS) data and aerial imagery were used to identify the land uses anticipated to be converted with implementation of the proposed Project. The resources used for data collection include:

- City of Stockton Adopted General Plan and Municipal Code
- City of Stockton General Plan Land Use Map (City of Stockton 2017a)
- City of Stockton GIS Data (City of Stockton 2019a)
- City of Stockton Landmaster Online GIS Information Viewer (City of Stockton 2020a)

The following methods were used to evaluate the potential impacts from construction and operation of the proposed Project on land use designations and zoning:

- GIS data to pinpoint the land use designations within the Project construction limits and the proposed RSA
- Aerial imagery from Google Earth to analyze the potentially affected industrial-type businesses that are within the proposed RSA
- Analysis of construction methods, rights-of-way, staging areas, and TCE locations
- Analysis of the requirements of all plans, policies, and regulations listed in the regulatory context pertinent to the proposed Project

The data and information collected on land use were used for the evaluation of potential impacts discussed in Section 3.10.5. The existing land uses in the Project construction limits were identified using GIS data, land use maps, and City and County general plans. Aerial imagery and design information were used to analyze the existing land uses and locations where property acquisition would result from the proposed Project. Construction methods, rights-of-way, and staging areas were reviewed to determine potential land use impacts and any temporary or permanent property acquisitions. Additionally, pertinent plans, policies, and regulations were reviewed to determine the proposed Project's consistency with federal, state, and local regulations, plans, and policies during and after construction of the proposed Project.

Methods for Determining Significance under CEQA

The thresholds of significance for impacts were developed consistent with the CEQA Guidelines to determine the significance of potential impacts in relation to land use and planning that could result from implementation of the proposed Project. The land use and planning analysis is based on CEQA Guidelines Appendix G, Land Use and Planning Criteria. Accordingly, the following criteria were assessed:

a) Would the project physically divide an established community?

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?

3.10.4 AFFECTED ENVIRONMENT

According to the City of Stockton General Plan Land Use Map, as shown in Figure 3.10-1, the proposed Project construction limits are located in an industrial area of Stockton. Land uses and zoning designations generally align in the RSA; the railroad corridor and adjacent parcels are zoned General Industrial. High- and low-density residential properties bound the land use and planning RSA to the west and east. Commercial land uses are located in Downtown Stockton, generally north and west of the proposed Project construction limits, and along the arterials in the Project Study Area. There are also several parks located in the Project Study Area.

As Figure 3.10-1 illustrates, the north-to-south-oriented UP railroad corridor physically divides the communities to its east and west. There are existing roadway-rail at-grade crossings at East Weber Avenue, East Main Street, East Market Street, East Lafayette Street, East Church, East Hazelton Avenue, and East Scotts Avenue that provide access from one side to the other; however, the industrial corridor is wide and does not facilitate safe and efficient movement across the tracks.

3.10.5 ENVIRONMENTAL ANALYSIS

This section describes the potential environmental consequences on land use and the City of Stockton's ability to meet its land use objectives within the land use and planning RSA. It includes an analysis of the proposed Project's potential to result in separation of established communities and land use conversions from previous land use designations.

CEQA Significance Findings

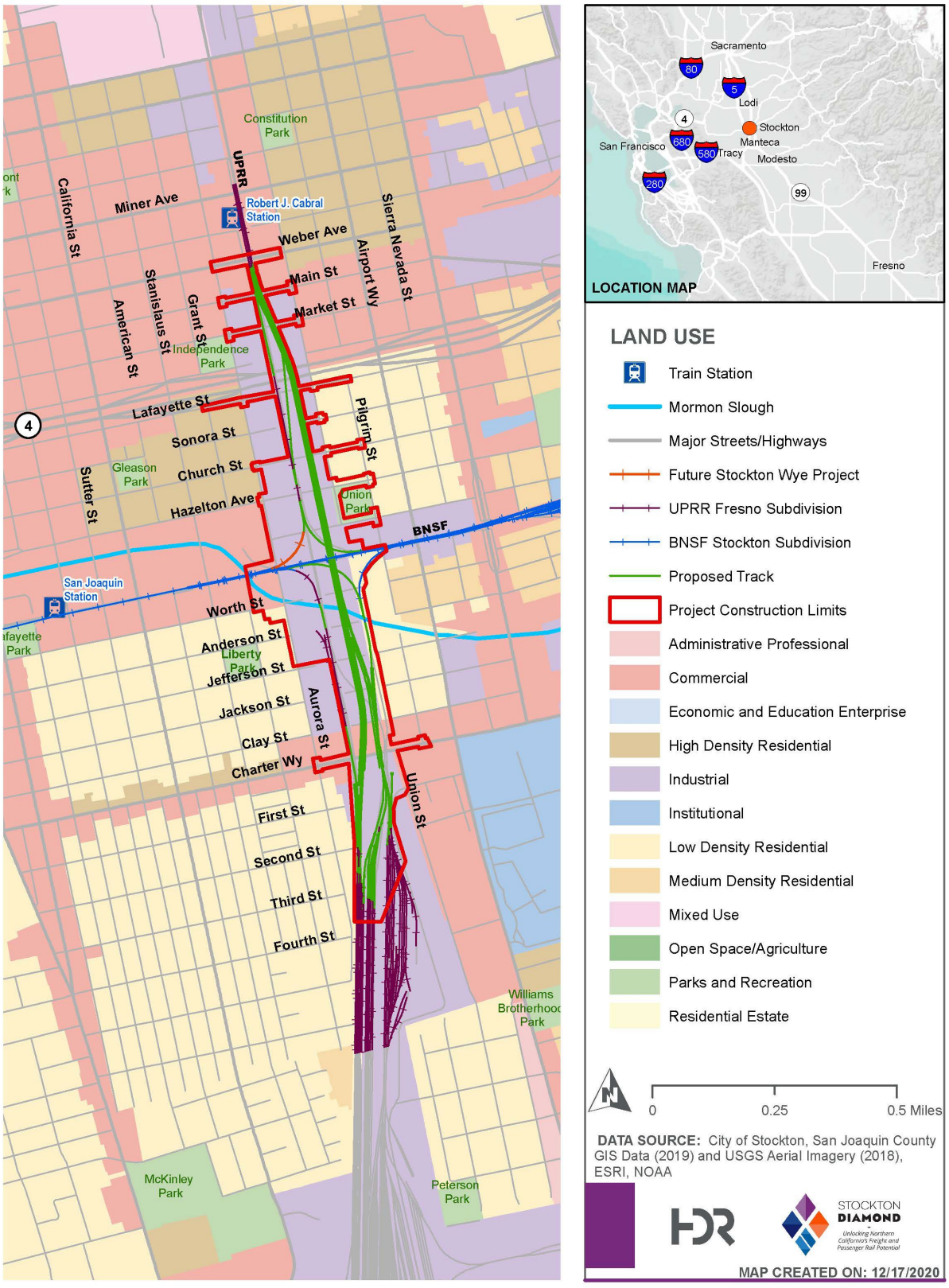
An environmental analysis of each threshold identified is provided below:

a) Would the project physically divide an established community?

Less than Significant Impact with Mitigation Incorporated. Temporary road closures during construction would occur as a result of the proposed Project. However, with the implementation of Measure BMP TRA-7 (Section 3.15, *Transportation*), a TMP would be prepared and include alternative routing plans, methods, and details for early and ongoing public outreach regarding temporary closures that may impact existing vehicular, pedestrian, or bicycle access during construction.

During construction, no more than one road would be closed at a time to minimize traffic interruptions, and where sidewalks need to be closed only one side of the street would be closed at a time to maintain access along the street. As a result, the proposed Project would not physically divide the neighborhoods, or cause short-term land use impacts within the land use and planning RSA. Therefore, with the implementation of a TMP specified in Measure BMP TRA-7 (see Section 3.15, *Transportation*), short-term impacts would be minimized.

Figure 3.10-1: City of Stockton Planned Land Use Map



During construction, staging areas would be established throughout the land use and planning RSA to provide work areas and construction access, as well as a location to store Project equipment and materials. A few vacant industrial parcels, as well as railroad-owned property adjacent to the Stockton Diamond, would be used for staging areas (see Figures 2.1-3, 2.1-4, 2.1-8, and 2.1-10 in Chapter 2, *Project Description*), and these properties would be restored to previous conditions after Project construction.

TCEs would also be required as part of the proposed Project. TCEs are identified in Table 3.10-1 and shown in Figure 3.10-2. Similar to the temporary staging areas, all TCE areas would be restored to previous conditions once Project construction is completed.

Therefore, based on the discussion above, with the implementation of Measure BMP TRA-7, short-term impacts would be considered less than significant, and no mitigation is required.

The proposed Project would permanently convert several industrial parcels (all are zoned General Industrial) to a transportation use, reducing the available industrial land use in the area by 10.87 acres. The proposed Project would not acquire any residential properties; therefore, there would be no impacts to residents nor residential land uses in the land use and planning RSA. Table 3.10-1 identifies the impacts that will occur to parcels that would be either fully or partially acquired, and impacts associated with the TCEs required for the construction of the proposed Project. Figure 3.10-2 shows the locations of the full and partial acquisitions required for the proposed Project.

As shown in Table 3.10-1, the proposed Project will result in 12 full acquisitions and two partial acquisitions, as well as two TCEs required for the construction of the proposed Project. Parcels impacted by the proposed Project are a mix of partially vacant parcels used for truck and RV parking and five active businesses.

Remnant portions of existing parcels may result from the permanent acquisition of existing parcels as part of the Project. However, with the implementation of Measure MM LU-2, SJRRC will coordinate with the City and UP to determine appropriate property ownership and establish agreements prior to the ROW acquisition process for these parcel remnants to avoid the potential for large open space areas to become voids in the Downtown area fabric.

The five active businesses, identified in Table 3.10-2, would require relocation. The City has identified available industrial zoned properties elsewhere in the City that are suitable for relocation of these five displaced businesses. All relocation impacts associated with these displaced businesses would be minimized through the implementation of the BMP LU-1, which requires that all business displacements conform with the Uniform Relocation Assistance and Real Property Acquisition Policies Act.

Table 3.10-1: Property Acquisitions and TCEs with the Proposed Project

Map ID	Property APN[a]	Type of Impact	Parcel Impacts (ac)	Occupant Type	Zoned Land Use
1	15120209	Full Acquisition	0.85	Yard for Lease; truck, RV parking	Light/Limited Industrial
2	15124002	Partial Acquisition	0.03[1]	Truck, RV parking	Light/Limited Industrial
3	15124071	Full Acquisition	0.42	City of Stockton – Truck and RV parking	Light/Limited Industrial
4	15124067	Full Acquisition	0.35	Truck and RV parking	Light/Limited Industrial
5	15124068	Full Acquisition	0.35	Truck and RV parking	General Industrial
6	15124070	Partial Acquisition	0.01*[2]	Truck, RV parking	General Industrial
7	15126003	Full Acquisition	0.57	Vacant Land	General Industrial
8	15126004	Full Acquisition	0.11	Overflow lot for Freedom Towing & Transport	General Industrial
9	15126034	Full Acquisition	0.69	Freedom Towing & Transport	General Industrial

Map ID	Property APN[a]	Type of Impact	Parcel Impacts (ac)	Occupant Type	Zoned Land Use
10	15126035	Full Acquisition	0.34	Lopez Truck Repair	General Industrial
11	15128003	Full Acquisition	1.76	Ramirez Auto Body & Paint/ Morales Auto Repair	General Industrial
12	15128004	TCE	0.34	Vacant Parcel	General Industrial
13	15128036	Full Acquisition	1.31	Vacant Parcel	General Industrial
14	15128035	Full Acquisition	0.70	Airgas (currently vacant)	General Industrial
15	15128038	TCE	0.03	Union Park	Open Space
16	16902004	Full Acquisition	3.38	Camco Recycling	General Industrial

[a] APN = Accessors Parcel Number
[1] The remaining acreage for the partial acquisition of APN 15124002 is 0.66 acre
[2] The remaining acreage for the partial acquisition of APN 15124070 is 0.17 acre

Figure 3.10-2: Property Acquisitions in the Land Use and Planning Resource Study Area

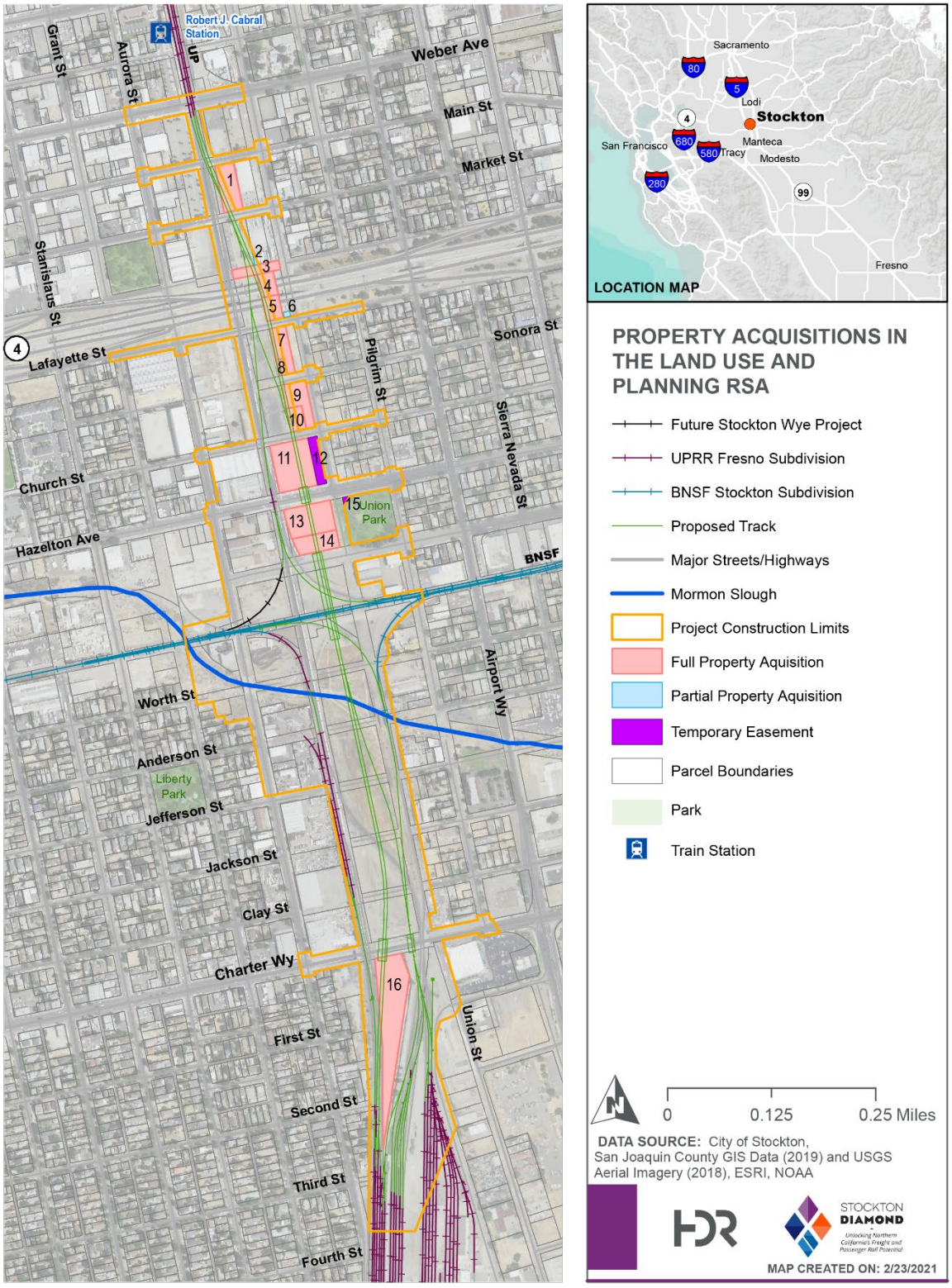


Table 3.10-2: Business Relocations with the Proposed Project

Map ID	Property APN[a]	Business Name	Address
8 & 9	15126034 15126004	Freedom Towing & Transport & Overflow Lot	1036 East Sonora Street
10	15126035	Lopez Truck Repair	1031 East Church Street
11	15128003	Ramirez Auto Body	1025 East Hazelton Avenue
14	15128003	Morales Auto Body Repair	1021 East Hazelton Avenue
16	16902004	Camco Recycling	1020 East Dr. Marin Luther King Jr. Boulevard

The affected businesses in Table 3.10-2 are not unique—generally auto- and truck-related services—and would not have relocation challenges. Moreover, these businesses serve larger areas and their relocation would not affect the local neighborhoods. The partial property acquisitions would not affect any existing business.

The full and partial acquisitions would result in minimal conversion of existing land use (a conversion of 10.87 acres of existing industrial land use to transportation use). The conversion of existing industrial land use to future transportation use would amount to approximately 0.37 percent, less than 1 percent of the City's industrial zoned land use.

Furthermore, the conversion of industrial land uses and relocation of businesses in the land use and planning RSA would not substantially change the existing conditions of the Downtown Stockton area, and no full or partial acquisitions of residential properties or displacement of residential properties would occur as a result of the proposed Project. The proposed Project would require minor changes to zoning and/ or land use designations in the City of Stockton. However, with the implementation of Measure MM LU-3~~2~~, these impacts would be mitigated.

In addition, the proposed Project would result in permanent road closures at East Lafayette and East Church Streets. However, nearby parallel streets would remain, allowing existing travelers to use other routes to cross the tracks. The East Hazelton Avenue at-grade crossing would be improved to a grade-separated undercrossing of the UP Fresno Subdivision mainline tracks, providing safer crossing of the railroad corridor.

During final design of the proposed Project, the permanent road closures and alternative routing plans would be addressed more comprehensively in coordination with the City of Stockton as part of the California Utilities Commission (CPUC) General Order (GO) 88B diagnostic review process, identified as Measure BMP TRA-8 in Section 3.15, Transportation. With the implementation of ~~the proposed Project would provide an overall long-term benefit to neighboring communities and the mobility patterns in the local community would remain predominantly unchanged.~~

~~Based on the discussion above, with the implementation of~~ Measures BMP LU-1, MM LU-3, and BMP TRA-8, long-term impacts would be considered less than significant with mitigation incorporated.

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?

Less than Significant Impact. The proposed Project is consistent with applicable land use and planning goals and policies identified in the San Joaquin County General Plan and City of Stockton General Plan. ~~The Project may result in flow rates that exceed the acceptable allowance within Mormon Channel set by the Mormon Channel Specific Plan. As identified within Section 3.9, Hydrology and Water Quality, the Project would implement Measure BMP HYR-~~ Table 3.10-3 below provides a consistency analysis of these goals, policies, or regulations adopted for the purpose of avoiding or mitigating environmental effects.

The Project may result in flow rates that exceed the acceptable allowance within Mormon Channel set by the Mormon Channel Specific Plan. As identified in Section 3.9, Hydrology and Water Quality, impacts would be considered less than significant with the implementation of Measure BMP HYD-5.

With the implementation of Measure BMP HYD-5~~6~~, and the information provided in Table 3.10-3, the proposed Project would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, short-term and long-term impacts are considered less than significant, and no mitigation is required.

Table 3.10-3: Consistency with Regional and Local Plans

Goals and Policies	Project Consistency
San Joaquin County General Plan (2016)	
Goal LU-1.8: Support for Alternative Transportation Modes: The County shall encourage land use patterns that promote walking, bicycling, and the use of public transit as alternatives to the personal automobile.	**Consistent.** The proposed Project's goal is to improve regional passenger travel efficiency by reducing conflicting train movements. Additionally, the proposed Project would improve roadway access, safety, and mobility at the existing railway crossing for bicyclists and pedestrians. Therefore, the proposed Project is consistent with this goal.
Goal LU-1.14: Incentives and Streamlined Development: The County shall support expanded incentives and CEQA streamlining opportunities for projects that are consistent with the adopted SJCOG RTP/SCS and implement the objectives of SB 375.	**Consistent.** The proposed Project would improve freight rail efficiency, which would reduce greenhouse gas emissions caused by existing rail congestion. Therefore, the proposed Project is consistent with this goal.
Envision Stockton 2040 General Plan (2018)	
Policy LU 3.2: Retain narrower roadways and reallocate right-of-way space to preserve street trees and mature landscaping and enhance the	**Consistent.** The Project's goal is to improve regional passenger travel efficiency by reducing conflicting train movements. Additionally, the

Goals and Policies	Project Consistency
pedestrian and bicycle network within and adjacent to residential neighborhoods.	proposed Project would improve roadway access, safety, and mobility at the existing railway crossing for bicyclists and pedestrians. Aesthetic treatments, such as trees, would be implemented as a result of impacts from the proposed Project. As stated in Section 3.1, Aesthetics, if the viaduct or retaining wall design option is chosen, the Project will implement Measure BMP AES-2, which requires SJRRC to coordinate with the City of Stockton on the incorporation of trees along the west side of South Union Street. As stated in Measure BMP AES-2, the incorporation of trees would improve the visual quality of the proposed structure and SJRRC will continue to coordinate with the City and UP on the location and types of plantings along the street during final design. Therefore, the proposed Project is consistent with this policy.
Policy LU 3.3: Maintain or expand the amount of Public Park and open space area currently available in each neighborhood.	**Consistent.** The proposed Project would not require any permanent full or partial acquisitions of existing open space resources. A TCE at Union Park would be required as part of the proposed Project. However, this impact would be temporary, and the portion of the park used as a TCE would be reverted its original condition after Project completion. Therefore, the proposed Project is consistent with this goal.
Policy LU 6.3: Coordinate, to the extent possible, upgrades and repairs to roadways with utility needs, infrastructure upgrades, and bicycle and pedestrian improvements.	**Consistent.** The proposed Project's goal is to improve regional passenger travel efficiency by reducing conflicting train movement. Additionally, the proposed Project would improve roadway access, safety, and mobility at the existing railway crossing for bicyclists and pedestrians. During construction, SJRRC would coordinate, to the extent possible, any potential upgrades and repairs to roadways with utility needs, infrastructure upgrades, and bicycle and pedestrian movements. Therefore, the proposed Project is consistent with this goal.

Goals and Policies	Project Consistency
Policy CH 1.1: Maintain walking and wheeling facilities and parks that are safe and accessible in all areas of Stockton.	**Consistent.** The Project's goal is to improve regional passenger travel efficiency by reducing conflicting train movements. Additionally, the proposed Project would improve roadway access, safety, and mobility at the existing railway crossing for bicyclists and pedestrians. In conjunction with the SJRRC Cabral Station Expansion project, the Stockton Diamond Grade Separation Project extends sidewalk improvements to Union Street on East Weber Avenue, East Main Street, East Market Street, and East Scotts Avenue. The at-grade rail crossings and sidewalk improvements will be constructed to ADA standards, and will be designed to current CPUC, City, and Railroad standards. Improvements will also include required lighting and multimodal warning devices and will be coordinated with the City, CPUC, and UP. Therefore, the proposed Project is consistent with this policy.
Action CH 1.1 A: Plant and maintain appropriate shade trees along all City streets to reduce heat exposure, prioritizing areas of the city with significantly less tree canopy, and provide a buffer between the travel way and bicycle and pedestrian facilities, and provide other amenities like well--marked crosswalks, bulb-outs, and pedestrian-scale street lighting.	**Consistent.** The Project will evaluate the use of vegetative barriers and urban greening as a means to potentially reduce air pollution exposure on sensitive receptors during final design as stated within Measure BMP AQ-2, included within Section 3.2, Air Quality. Therefore, the proposed Project is consistent with this action.
Goal TR-1: Provide an integrated transportation system that enables safe and efficient movement of people and goods for all modes of travel.	**Consistent.** The Project's purpose is to reduce passenger and freight rail delays and associated congestion, maintain key community connections, improve multimodal access, provide local and regional environmental and economic benefits, and address safety by closures and enhancements at key roadway-rail grade crossings. Therefore, the Project is consistent with this goal.
Policy TR-1.2: Enhance the use and convenience of rail service for both passenger and freight movement.	**Consistent.** The Project's goal is to improve regional passenger travel efficiency by reducing conflicting train movements, which would also improve freight rail travel efficiency. Therefore, the Project is consistent with this policy.

Goals and Policies	Project Consistency
ActionTR-1.2 B: Support the San Joaquin Regional Transportation District's Regional Bus Service, Altamont Commuter Express (ACE), and AMTRAK's San Joaquin intercity rail service, and pursue and support other regional transit programs and projects, such as: • ACE plans to bypass existing bottlenecks (e.g., the Union Pacific railyards in South Stockton); • Connecting to the BART system; • Extending ACE service south to Merced; and • Proposing rail between Stockton and Sacramento along the California Traction and other rail corridors.	**Consistent.** The Project's purpose would support the San Joaquin Regional Transportation District's Regional Bus Service, Altamont Corridor Express (ACE), and the Amtrak San Joaquins intercity rail service. Indirectly, the Project would assist in the pursuit and support of other regional transit programs and projects, such as: ACE plans to bypass existing bottlenecks (e.g., the Union Pacific railyards in South Stockton). The Project would not preclude the connection to the BART system, extension of ACE service south to Merced, or the proposed rail connections between Stockton and Sacramento along the California Traction and other rail corridors. Therefore, the Project is consistent with this action.
Action TR-1.2 C: Provide grade separations at railroad crossings on arterial streets, where feasible, to ensure public safety and minimize traffic delay.	**Consistent.** The Project will replace at-grade crossing with a grade separated crossing at East Hazelton Avenue and East Scotts Avenue. Additionally, the Project's purpose is to reduce passenger and freight rail delays and associated congestion, as well as improve multimodal access and address safety by closures and enhancements at key roadway-rail grade crossings. Therefore, the Project is consistent with this action.
Goal TR-3: Design transportation infrastructure to help reduce pollution and vehicle travel and its associated policies and actions.	**Consistent.** The Project will replace at-grade crossing with a grade separated crossing at East Hazelton Avenue and East Scotts Avenue. The improved freight mobility would reduce the total daily occupancy of the roadway crossings by approximately 30 percent in 2045. The reduction in crossing occupancy would improve on-road traffic flow and reduce vehicle idling in the Project Study Area. Table 3.2-11 in Section 3.2, Air Quality, summarizes the total emission reduction and the average annual emission reduction for the proposed Project. As shown in Table 3.2-11, the proposed Project would result in long-term reductions in criteria pollutant emissions.

Goals and Policies	Project Consistency
	Therefore, the proposed Project is consistent with Goal TR-3.
Stockton Municipal Code	
Title 16, Development Code, Section 16.04.020 • Provide standards for orderly growth and development of the city; • Implement the land uses of the General Plan; maintain and protect the value of property; • Conserve and protect the natural resources of the city, including its surrounding agricultural lands; • Protect the character and social and economic stability of residential, commercial, and industrial areas; • Assist in maintaining a high quality of life without causing unduly high public or private costs for development or unduly restricting private enterprise, initiative, or innovation in design; and • Provide regulations for the subdivision of land in compliance with the Subdivision Map Act.	**Consistent.** The Project will replace at-grade crossings with grade separated crossings and modify existing grade crossings. With the implementation of Measures BMP AES-1 through BMP AES-3, the Project will coordinate design elements, street trees, and develop a lighting plan to maintain or enhance the visual quality within the Project Study Area. Therefore, the proposed Project will not result in growth or subdivision of land and is consistent with Title 16 of the municipal code.

3.10.6 BEST MANAGEMENT PRACTICES AND/OR MITIGATION MEASURES

The following BMP and mitigation measures associated with land use and planning would be applied to the proposed Project.

BMP LU-1: **General Plan Amendment.** During final design and prior to construction, SJRRC will coordinate with the City of Stockton to ensure that the City of Stockton's General Plan is amended to reflect the land use designations consistent with what has been identified by the proposed Project.

MM LU-2: **Property Ownership and Agreement Coordination Efforts.** During final design SJRRC will ensure coordination with the City and UP to determine appropriate property ownership and establish agreements prior to the ROW acquisition process. Options to address property ownership may include, but not be limited to:

- Continuing City ownership and maintenance of the street corridors with permanent easements required for the railroad corridor; or
- SJRRC and/or railroad company ownership and maintenance of the properties within the railroad corridor with either SJRRC or private ownership of adjacent remnant parcels. Public Utility easements would be necessary for this option.

MM LU-3~~2~~: **Relocation Assistance.** During final design, SJRRC will ensure that the loss of private industrial property be mitigated by payment of fair market compensation and provision of relocation assistance in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act. For these non-residential displacements, the following would be provided to business operators:

- Relocation advisory services
- Minimum 90 days written notice to vacate prior to requiring possession
- Reimbursement for moving and reestablishment expenses

3.11 Noise and Vibration

3.11.1 INTRODUCTION

This section describes the potential temporary and permanent noise and vibration effects of the proposed Project during construction and operation. It describes the potential for excessive noise and vibration impacts on sensitive receptors in the noise and vibration RSA. This section also addresses the proposed Project's consistency with applicable federal, state, and local regulations, policies, and goals.

Fundamentals of Environmental Noise and Vibration

Overview of Noise and Sound

Noise from transit and rail systems is expressed in terms of a source-path-receiver framework. The source generates noise levels that depend on the type of source (for example, a commuter train) and its operating characteristics (for example, speed). The receiver is the noise-sensitive land use (for example, residence, hospital, or school) exposed to noise from the source. Between the source and the receiver is the path, where the noise is reduced by distance, intervening structures, and topography. Environmental noise impacts are assessed at the receiver. Noise criteria have been established (as described in Section 3.11.3) for the various types of receivers because not all receivers have the same noise sensitivity.

Noise is unwanted sound. Sound is measured in terms of sound pressure level and is usually expressed in decibels (dB). The human ear is less sensitive to higher and lower frequencies than it is to mid-range frequencies. All noise ordinances, and this noise analysis, use the A-weighted decibel (dBA) system, which measures what humans hear in a more meaningful way because it reduces the sound levels of higher and lower frequency sounds. Figure 3.11-1 shows typical A-weighted sound levels for transit, rail and non-transit sources.

Analysts use four primary noise measurement descriptors to assess noise impacts from traffic and transit projects. They are the equivalent sound level (Leq), the day-night sound level (Ldn), the sound exposure level (SEL), and maximum sound level (Lmax).

- **Leq**: The level of a constant sound for a specified period of time that has the same sound energy as an actual fluctuating noise over the same period of time. The peak-hour Leq is used for all traffic and commuter rail noise analyses at locations with daytime use, such as schools and libraries.
- **Ldn**: The Leq over a 24-hour period, with 10 dB added to nighttime sound levels (between 10 p.m. and 7 a.m.) to account for the greater sensitivity and lower background sound levels during this time. The Ldn is the primary noise-level descriptor for rail noise at residential land uses.
- **SEL**: The SEL is the primary descriptor of a single noise event (for example, noise from a train passing a specific location along the track). The SEL represents a receiver's cumulative noise

exposure from an event and the total A-weighted sound during the event normalized to a 1-second interval.

- **Lmax**: The loudest 1 second of noise over a measurement period, or Lmax, is used in many local and state ordinances for noise emitted from private land uses and for construction noise impact evaluations.

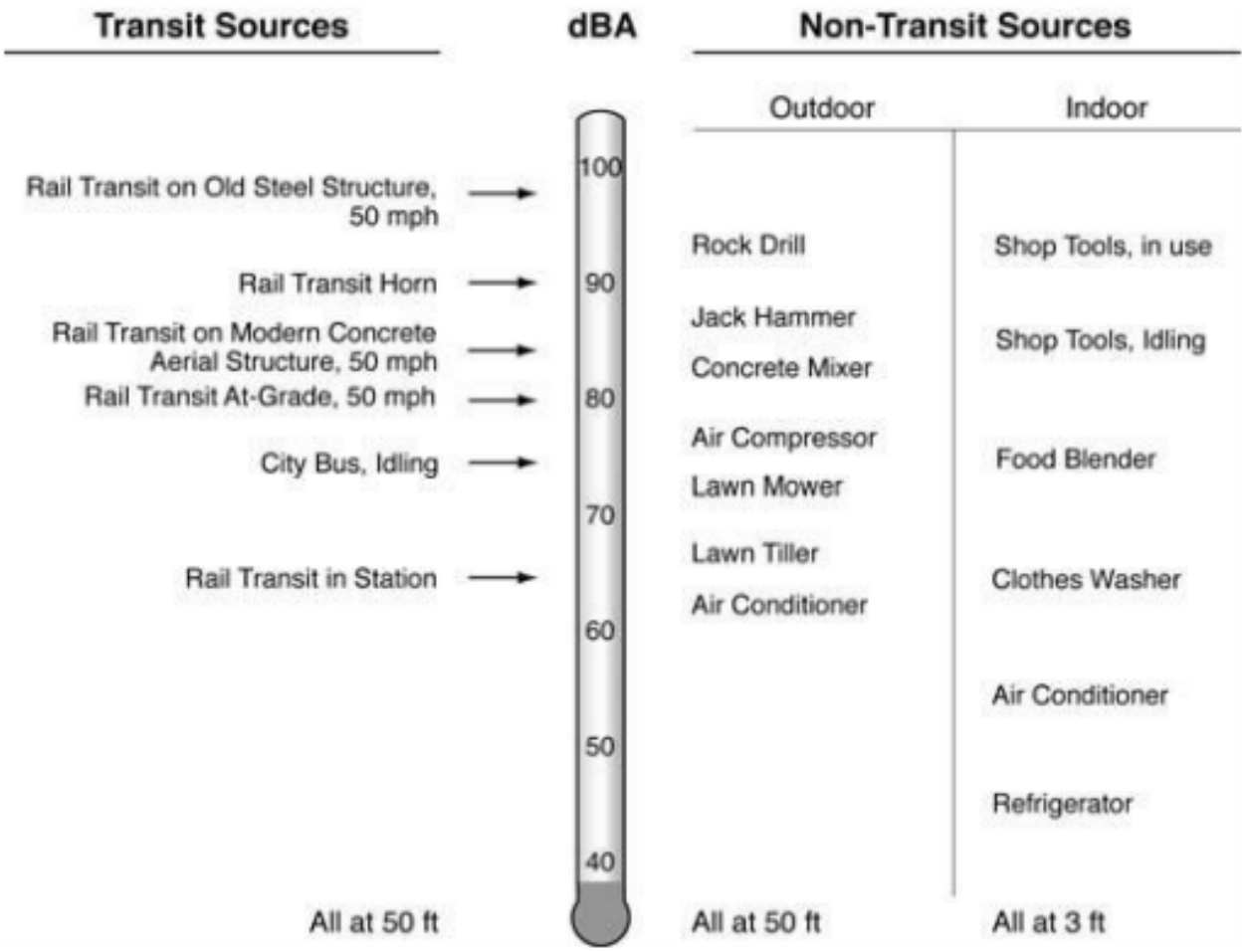
Overview of Ground-Borne Vibration

Vibration from a transit system is also expressed in terms of a *source-path-receiver* framework. The *source* is the train rolling on the tracks, which generates vibration energy transmitted through the supporting structure under the tracks and into the ground. Once the vibration gets into the ground, it propagates through the various soil and rock strata—the *path*—to the foundations of nearby buildings—the *receivers*. Ground-borne vibrations are generally reduced with distance depending on the local geological conditions. A receiver is a vibration-sensitive building (for example, residence, hospital, or school) where the vibrations may cause perceptible shaking of the floors, walls, and ceilings and a rumbling sound inside rooms. Not all receivers have the same vibration sensitivity. Consequently, vibration criteria are established for the various types of receivers. Ground-borne noise occurs as a perceptible rumble and is caused by the noise radiated from the vibration of room surfaces.

Vibration above certain levels can damage buildings, disrupt sensitive operations, and cause annoyance to humans within buildings. The response of humans, buildings, and equipment to vibration is most accurately described using velocity or acceleration. In this analysis, vibration velocity (VdB) is the primary measure to evaluate the effects of vibration.

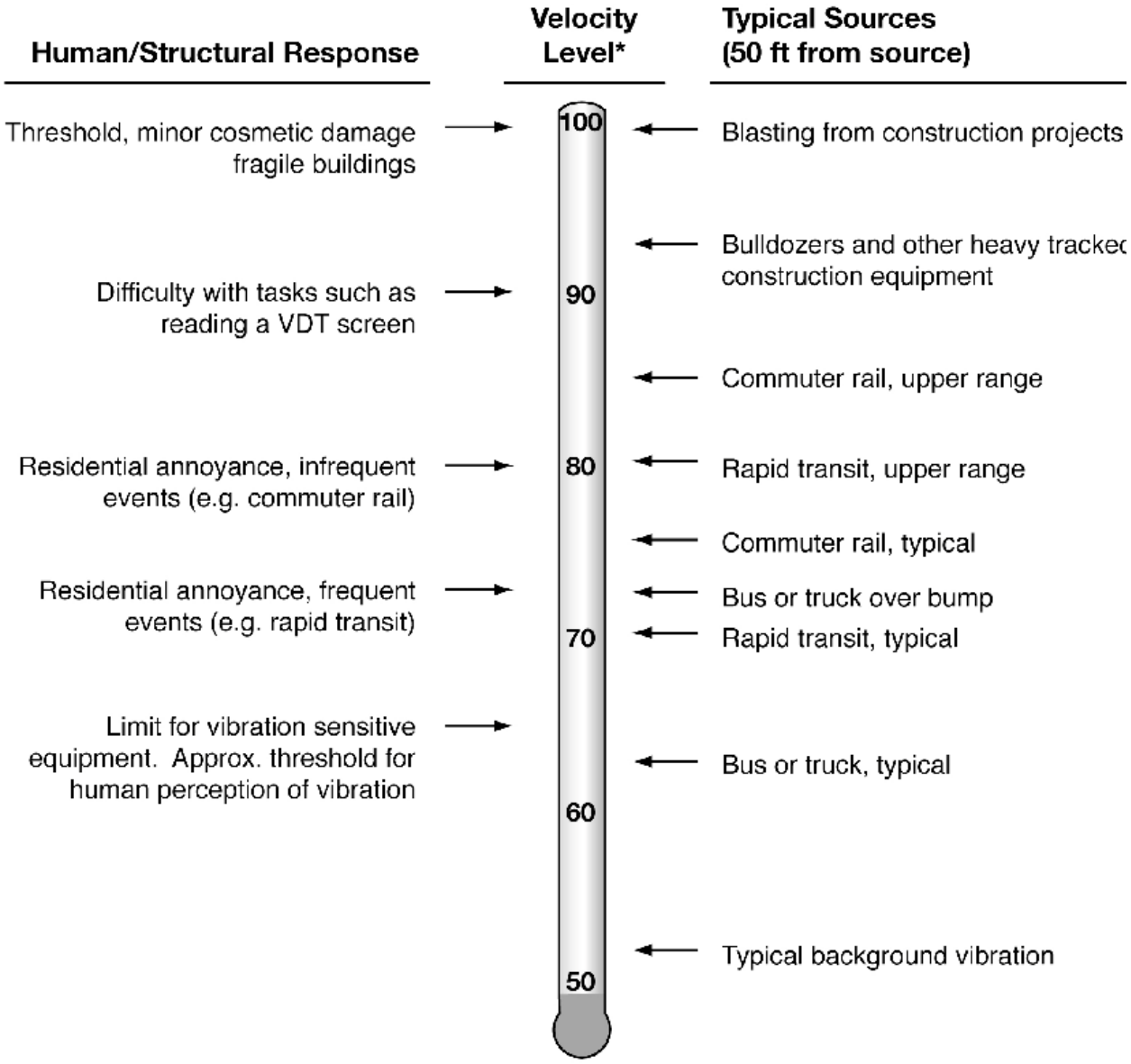
Figure 3.11-2 illustrates typical ground-borne vibration velocity levels for common sources and thresholds for human and structural response to ground-borne vibration. As shown, the range of interest is from approximately 50 to 100 VdB in terms of vibration velocity level (that is, from imperceptible background vibration to the threshold of damage). Although the threshold of human perception to vibration is approximately 65 VdB, annoyance does not usually occur unless the vibration exceeds 70 VdB.

Figure 3.11-1: Typical A-weighted Sound Levels



Source: FTA, 2018

Figure 3.11-2: Typical Ground-Borne Vibration Levels



** RMS Vibration Velocity Level in VdB relative to 10^{-6} inches/second*

Source: FTA, 2018

3.11.2 REGULATORY SETTING

This section identifies the applicable federal, state, and local laws, regulations, and orders that are relevant to the analysis of noise and vibration in the EIR. It also states whether or not the proposed Project would be in compliance with the regulations described herein.

Federal Plans, Policies and Regulations

Noise Control Act of 1972

The Noise Control Act of 1972 (42 USC 4901 to 4918) was the first comprehensive statement of national noise policy. The Noise Control Act declared "it is the policy of the U.S. to promote an environment for all Americans free from noise that jeopardizes their health or welfare." Although the Noise Control Act, as a funded program, was ultimately abandoned at the federal level, it served as the catalyst for comprehensive noise studies and the generation of noise assessment and mitigation policies, regulations, ordinances, standards, and guidance for many states, counties, and municipal governments. For example, the noise elements of community general plan documents and local noise ordinances considered in this analysis were largely created in response to the passage of the Noise Control Act.

Occupational Noise Exposure Standard (29 CFR 1910.95)

The Occupational Noise Exposure Standard (29 CFR 1910.95) is noise standards set by the Occupational Safety and Health Administration (OSHA). The standards set noise exposure protection for when the sound levels exceed the measurements set by OSHA.

U.S. Environmental Protection Agency Railroad Noise Emission Standards

Interstate rail carriers (such as freight railroads) must comply with EPA noise emission standards (40 CFR 201), which are expressed as maximum measured noise levels and applicable to locomotives manufactured after 1979.

- 100 feet from geometric center of stationary locomotive, connected to a load cell and operating at any throttle setting except idle—87 dBA (at idle setting, 70 dBA).
- 100 feet from geometric center of mobile locomotive—90 dBA.
- 100 feet from geometric center of mobile railcars, at speeds of up to 45 mph—88 dBA—or speeds greater than 45 mph (93 dBA).

Federal Railroad Administration Guidelines and Noise Emission Compliance

FRA has developed a guidance manual in September 2012 titled 'High-Speed Ground Transportation Noise and Vibration Impact Assessment' for assessing noise and vibration impacts from major rail projects. Although not at the level of a rule or a standard, FRA guidance is intended to satisfy environmental review requirements and assist Project sponsors in addressing predicted construction and operation noise and vibration during the design process.

FRA also has regulations governing compliance with noise emissions from interstate railroads. FRA's Railroad Noise Emission Compliance Regulation (49 CFR 210) prescribes compliance requirements for enforcing railroad noise emission standards adopted by USEPA (40 CFR 201).

Federal Transit Administration Guidelines

Similar to FRA, FTA developed a guidance manual in September 2018 entitled *Transit Noise and Vibration Impact Assessment Manual* (guidance manual) for assessing noise and vibration impacts from major rail projects intended to satisfy environmental review requirements and assist Project sponsors in addressing predicted construction and operation noise and vibration during the design process. The FTA guidance manual noise and vibration impact criteria for rail projects and their associated fixed facilities, such as storage and maintenance yards, passenger stations and terminals, parking facilities, and substations, are described in Section 3.9.3, and are the primary noise criteria used for the proposed Project. FTA guidance is accepted by FRA.

State Plans, Policies, and Regulations

California Noise Control Act

At the state level, the California Noise Control Act, enacted in 1973 (Health and Safety Code 46010 et seq.), requires the Office of Noise Control in the Department of Health Services to provide assistance to local communities developing local noise control programs. The Office of Noise Control also works with the Office of Planning and Research to provide guidance for preparing required noise elements in city and county general plans, pursuant to Government Code Section 65302(f). In preparing the noise element, a city or county must identify local noise sources and analyze and quantify, to the extent practicable, current and projected noise levels for various sources, including highways and freeways; passenger and freight railroad operations; ground rapid transit systems; commercial, general, and military aviation and airport operations; and other ground stationary noise sources. These noise sources also would include commuter rail alignments. The California Noise Control Act stipulates the mapping of noise-level contours for these sources, using community noise metrics appropriate for environmental impact assessment as defined in Section 3.11.3. Cities and counties use these as guides to making land use decisions to minimize the community residents' exposure to excessive noise.

Regional and Local Plans, Policies, and Regulations

County of San Joaquin General Plan (2016)

There are no applicable goals and policies related to rail related noise and vibration within the County of San Joaquin General Plan.

City of Stockton 2040 General Plan (2018)

The City of Stockton's General Plan includes the following applicable noise policy:

- **SAF-2.5**: Protect the community from health hazards and annoyance associated with excessive noise levels.

City of Stockton General Plan Environmental Impact Report (2018)

- **NOISE-1**: The proposed project would not expose people to or generate noise levels in excess of standards established in the General Plan, the Municipal Code, or the applicable standards of other agencies.
- **NOISE-2**: The proposed project would not expose people to or generate excessive groundborne vibration or groundborne noise levels.

Consistency with Plans, Policies, and Regulations

The proposed Project would comply with all relevant federal, state, and local policies and regulations as they relate to noise and vibration. The proposed Project would ensure that all noise and vibration regulations are followed. This includes compliance with federal and state Noise Control Acts and all applicable goals and policies set forth by the City's general plan and the City's General Plan EIR, which allows a project to use applicable standards of other agencies.

3.11.3 METHODS FOR EVALUATING IMPACTS

This section defines the noise and vibration RSA and describes methods used to analyze the potential for the proposed Project to generate excessive noise and vibration in the RSA during construction and operations.

Definition of Resource Study Area

As defined in Section 3.01 ~~1~~, Introduction, RSAs are the geographic boundaries in which the environmental investigations specific to each resource topic were conducted. The RSAs for impacts from noise and vibration encompasses the sensitive receptors directly or indirectly affected by both Project construction and operations. For the purposes of this analysis, the study area for noise and vibration is defined as follows:

- The study area for noise is the area within approximately 1,000 feet of the track centerline
- The study area for vibration is the area within approximately 200 feet of the track centerline

Methods for Data Collection and Analysis

Information presented in this section regarding noise and vibration was obtained from the following sources:

- Available reports and data (federal and state statutes, regional agency policies, and ordinances)
- SJRRC data on existing locomotive fleet and operations
- Available data on UP and BNSF freight train volumes

A quantitative assessment of potential noise and vibration impacts associated with construction and operation of the proposed Project was conducted. The approach can be summarized as follows.

- Analyze direct noise and vibration impacts through quantitative analysis.
- To assess railroad noise and vibration: consider train type; train schedules (number of through trains during daytime and nighttime hours); number of cars in each train; speed profiles; landform topography; and noise level changes associated with alterations to train infrastructure and service volumes.
- To assess construction noise levels: consider equipment expected to be used by contractors during construction, usage scenarios for how equipment would be operated, estimated site layouts of equipment along the right-of-way, and the location of construction operations with respect to nearby noise-sensitive receptors.
- To assess construction vibration: account for vibration from construction equipment, estimated site layout of equipment along the right-of-way, and the location of construction operations with respect to nearby vibration-sensitive receptors.
- Include the following scenarios: No Project, existing conditions plus proposed Project; and future proposed Project operations. FTA and FRA criteria do not specify a comparison of the future proposed Project noise to the future No Project noise
- Refer to FTA's guidance manual, *Transit Noise and Vibration Impact Assessment* (FTA 2018).

Construction Noise and Vibration Impact Assessment Methodology

The construction noise impact assessment used the methodology described in the FTA guidance manual (FTA 2018). For this analysis, construction scenarios for typical railroad construction projects are used to predict noise impacts. The construction noise methodology includes the following information:

- Noise emissions from typical equipment used by contractors
- Construction methods
- Scenarios for equipment usage
- Estimated site layouts of equipment along the right-of-way
- Proximity of construction activities to nearby noise-sensitive receptors
- FTA construction noise assessment criteria

The FTA guidance manual (FTA 2018) also provides the methodology for the assessment of construction vibration impacts. Estimated construction scenarios have been developed for typical railroad construction projects allowing a quantitative construction vibration assessment to be conducted. Construction vibration is assessed quantitatively where the potential for blasting, pile driving, vibratory compaction, demolition, or excavation close to vibration-sensitive structures exists. The methodology includes the following information:

- Vibration source levels from equipment used by contractors
- Relationship of construction activities to nearby vibration-sensitive receptors
- FTA vibration impact criteria for annoyance and building damage

Train Operation Noise and Vibration Impact Assessment Methodology

Train operational noise and vibration levels were projected using freight and passenger rail operational information and the prediction models provided in the FTA guidance manual (FTA 2018). Potential impacts were evaluated in accordance with the Detailed Noise Analysis and General Vibration Assessment procedures outlined in the FTA guidance manual. The methodology and assumptions for train operation are as follows.

- There will be no changes in freight or passenger operations due to the proposed Project. The future proposed Project and future No Project train volumes will be the same with the proposed Project, as the proposed Project will not generate new passenger or freight train demand. The only Project change that would affect the noise assessment is the elevation of the north-south Union Pacific tracks that are shifted closer to receptors (and elevated) as shown in Figure 3.11-5. Currently, there are on average 27.5 daytime (7 a.m. to 10 p.m.) freight trains and 16.5 nighttime (10 p.m. to 7 a.m.) freight trains north of the Stockton Diamond and 25 daytime freight trains and 15 nighttime freight trains south of the Stockton Diamond. The proposed Project does not change the alignment of the east west tracks (BNSF Stockton Subdivision); therefore, the number of trains on those tracks, and their location, was only included in establishing the existing noise conditions.
- There are 12 passenger trains (ACE and Amtrak San Joaquins – Pre COVID-19) that travel through the Stockton Diamond daily – eight daytime trains and four nighttime trains, based on the times they would travel through the RSA.

Projected and existing ambient noise exposures were tabulated at the identified noise-sensitive receptors or clusters of receptors and the levels of noise impact (no impact, moderate impact, or severe impact) were identified by comparing the existing and train noise exposure based on the applicable FTA noise impact criteria.

Methods for Determining Significance under CEQA

The thresholds of significance for impacts were developed consistent with the CEQA Guidelines (Appendix G) to determine the significance of potential impacts in relation to noise and vibration that could result from implementation of the proposed Project. Accordingly, the following criteria were assessed:

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the proposed 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 private airstrip or 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 proposed Project expose people residing or working in the project area to excessive noise levels?

Thresholds of Significance – FTA Noise Criteria

Construction Noise and Vibration Impact Assessment Criteria

Construction activities for a large transportation project often generate noise and vibration complaints even though they take place only for a limited time. For the proposed Project, construction noise and vibration impacts are assessed where the exposure of noise- and vibration-sensitive receptors in relation to construction-related noise or vibration, is expected to occur at levels exceeding standards established by FTA and established thresholds for architectural and structural building damage (FTA 2018).

Construction Noise Impact Criteria

Table 3.11-1 presents the FTA noise assessment criteria for construction activity. The last column applies to construction activities that extend over 30 days near any given receptor. Ldn is used to assess impacts in residential areas and 24-hour Leq is used in commercial and industrial areas. The 8-hour Leq and the 30-day average Ldn noise exposure from construction noise calculations use the noise emission levels of the construction equipment, its location, and operating hours. The construction noise limits are normally assessed at the noise-sensitive receptor property line.

Table 3.11-1: Federal Transit Administration Construction Noise Assessment Criteria

	8-Hour Leq, dBA		Noise Exposure, Ldn, dBA
Land Use	Day	Night	30-day Average
Residential	80	70	75[a]
Commercial	85	85	80[b]
Industrial	90	90	85[b]

Source: Federal Transit Administration 2018

[a] In urban areas with very high ambient noise levels (L_{dn} greater than 65 dB), L_{dn} from construction operations should not exceed existing ambient noise levels + 10 dB.

[b] 24-hour L_{eq}, not L_{dn}.

L_{eq} = equivalent sound level; dBA = A-weighted decibel; L_{dn} = day-night sound level; dB = decibels

CONSTRUCTION VIBRATION IMPACT CRITERIA

Guidelines in the FTA guidance manual (FTA 2018) provide the basis for the construction vibration assessment. FTA provides construction vibration criteria designed primarily to prevent building damage, and to assess whether vibration might interfere with vibration-sensitive building activities or temporarily annoy building occupants during the construction period. The FTA criteria include two ways to express vibration levels.

- Root-mean-square (RMS) vibration velocity level (Lv, in VdB) for annoyance and activity interference.
- Peak particle velocity (PPV), which is the maximum instantaneous peak of a vibration signal used for assessments of damage potential.

To avoid temporary annoyance to building occupants during construction or construction interference with vibration-sensitive equipment inside special-use buildings, such as a magnetic resonance imaging (MRI) machine, FTA recommends using the long-term operational vibration criteria (discussed in the Operational Noise and Vibration Impact Assessment Criteria subsection).

Table 3.11-2 presents the FTA building damage criteria for construction activity and lists peak particle velocity (PPV) and approximate L_v limits for four building categories. These limits are used to estimate potential problems that should be addressed during final design.

Table 3.11-2: Federal Transit Administration Construction Vibration Damage Criteria

Building Category	PPV (inch/second)	Approximate L_v[a]
I. Reinforced concrete, steel, or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Non-engineered timber and masonry buildings	0.2	94
IV. Buildings extremely susceptible to vibration damage	0.12	90

Source: Federal Transit Administration 2018

[a] RMS vibration velocity level in VdB relative to 1 micro-inch/second.

PPV = peak particle velocity; RMS = root-mean-square; VdB = vibration decibel

Operational Noise and Vibration Impact Assessment Criteria

TRAIN NOISE IMPACT CRITERIA

The descriptors and criteria for assessing noise impacts vary according to land use categories adjacent to the track. For land uses where people live and sleep (for example, residential neighborhoods, hospitals, and hotels), L_{dn} is the assessment parameter. For other land use types where there are noise-sensitive uses (for example, outdoor concert areas, schools, and libraries), $L_{eq}(h)$ for an hour of noise sensitivity that coincides with train activity is the assessment parameter. Table 3.11-3 summarizes the three land use categories and noise metrics applied to each category.

Table 3.11-3: Federal Transit Administration Noise-Sensitive Land Use Categories

Land Use Category	Noise Metric (dBA)	Land Use Category
1	Outdoor Leq(h)[a]	Tracts of land where quiet is an essential element in their intended purpose. This category includes lands set aside for serenity and quiet, such as outdoor amphitheaters, concert pavilions, and National Historic Landmarks with significant outdoor use.
2	Outdoor Ldn	Residences and buildings where people normally sleep. This category includes homes and hospitals, where nighttime sensitivity to noise is of utmost importance.
3	Outdoor Leq(h)[a]	Institutional land uses with primarily daytime and evening use. This category includes schools, libraries, and churches, where it is important to avoid interference with such activities as speech, meditation, and concentration. Buildings with interior spaces where quiet is important, such as medical offices, conference rooms, recording studios, and concert halls fall into this category, as well as places for meditation or study associated with cemeteries, monuments, and museums. Certain historical sites, parks, and recreational facilities are also included.

Source: Federal Transit Administration 2018

[a] L_{eq} for the noisiest hour of transit-related activity during hours of noise sensitivity.

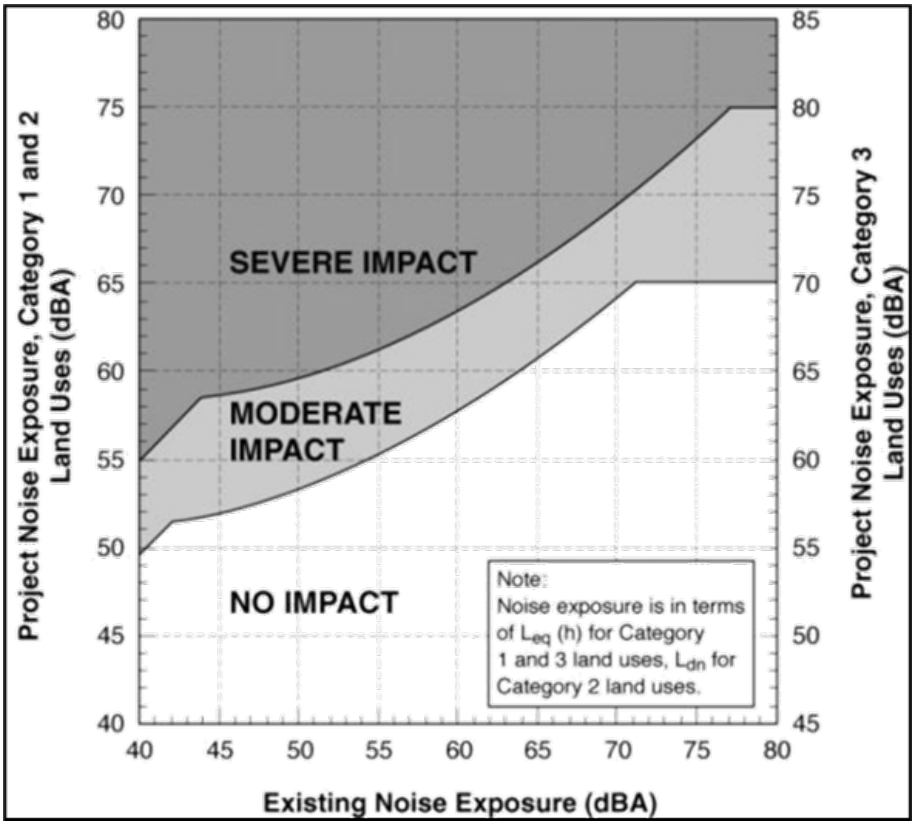
dBA = A-weighted decibel; L_{eq} = equivalent sound level; L_{dn} = day-night sound level

The noise impact criteria used by FTA and FRA are ambient based; the increase in future noise (future noise levels with the proposed Project compared to existing noise levels) is assessed rather than the noise caused by each passing train. It is important to note that the noise impact criteria do not specify a comparison of the future proposed Project noise to the future No Project noise. This is because comparison of a future noise projection with an existing noise condition is more accurate than comparison of a projection with another noise projection. Because background noise is expected to increase by the time the proposed Project improvements generate noise, this approach of using existing noise conditions is conservative.

Figure 3.11-3 depicts the FTA noise impact criteria for human annoyance. Depending on the magnitude of the cumulative noise increases, FTA and FRA categorize impacts as follows.

- **No impact** – Project-generated noise is not likely to cause community annoyance.
- **Moderate impact** – Project-generated noise in this range is considered to cause impact at the threshold of measurable annoyance. Mitigation should be considered at this level of impact based on project specifics and details concerning the affected properties.
- **Severe impact** – Project-generated noise in this range is likely to cause a high level of community annoyance. Mitigation measures must be considered.

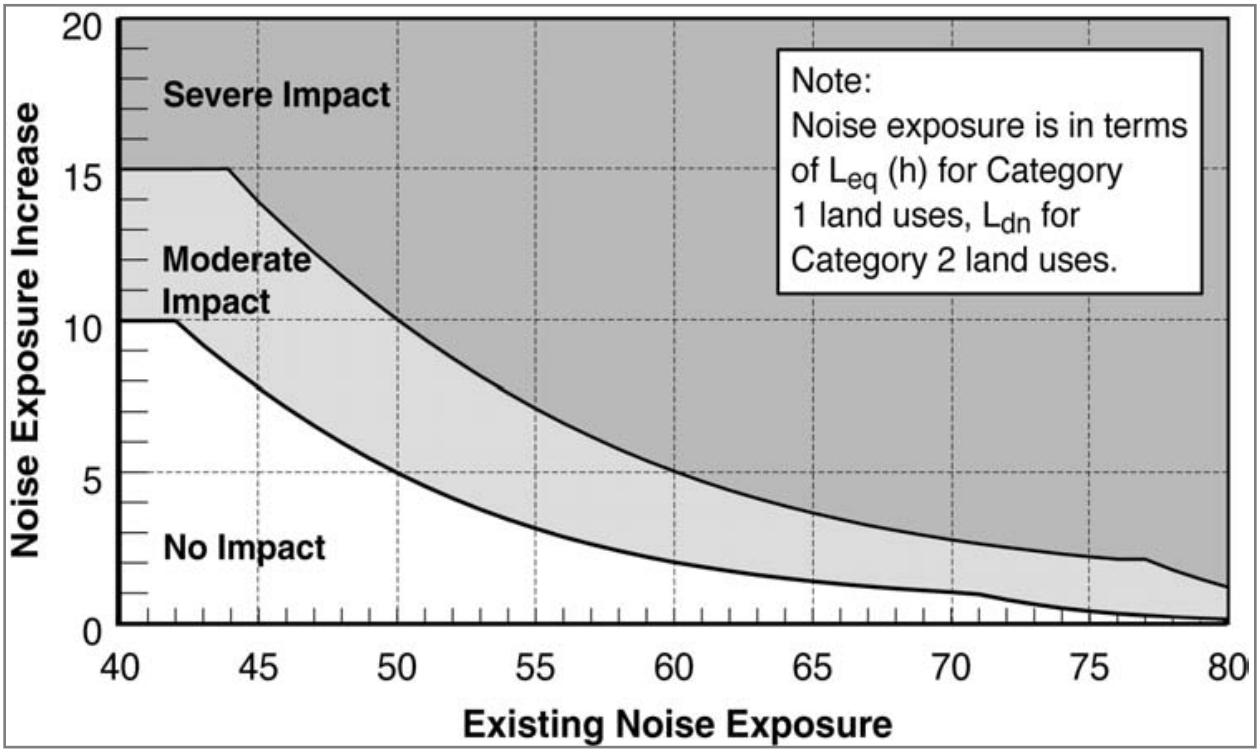
Figure 3.11-3: FTA Noise Impact Criteria



Source: FTA, 2018

Although the curves in Figure 3.11-3 are defined in terms of the Project noise exposure and the existing noise exposure, the increase in the cumulative noise—when Project-generated noise is added to existing noise levels—is the basis for the criteria. To illustrate this point, Figure 3.9-4 shows the noise impact criteria for Category 1 and Category 2 land uses in terms of the allowable increase in the cumulative noise exposure. Because Ldn and Leq are measures of total acoustic energy, any new noise source in a community will cause an increase, even if the new source level is lower than the existing level. In Figure 3.11-4, the criterion for a moderate impact allows a noise exposure increase of 10 dB if the existing noise exposure is 42 dBA or less, but only a 1 dB increase when the existing noise exposure is 70 dBA.

Figure 3.11-4: FTA Cumulative Noise Impact Criteria



Source: FTA, 2018

As the existing level of ambient noise increases, the allowable level of transit noise increases, but the total amount that community noise exposure is allowed to increase is reduced. This approach accounts for the potential for a Project noise exposure that is lower than the existing noise exposure to still cause an effect.

Table 3.11-4 summarizes FTA criteria for acceptable ground-borne vibrations and presents vibration sensitivity in terms of the land use categories. These levels represent the maximum vibration level of an individual train pass-by. A vibration event occurs each time a train passes the building or property and causes discernible vibration. Frequent events are more than 70 vibration events per day, occasional events are 30 to 70 vibration events per day, and infrequent events are fewer than 30 vibration events per day. Ground-borne vibration impacts from train operations inside vibration-sensitive buildings are defined by the vibration velocity level, expressed in terms of VdB, and the number of vibration events per day from the same kind of source. As shown in Table 3.11-5, these guidelines also provide impact criteria for special buildings that are very sensitive to ground-borne vibrations, such as concert halls, recording studios, and theaters.

Table 3.11-4: Federal Transit Administration Ground-borne Vibration and Ground-borne Noise Impact Criteria

Land Use Category	Ground-borne Vibration Impact Levels (VdB re 1 micro-inch/sec)			Ground-borne Noise Impact Levels (dBA re 20 micro-Pascals)		
	Frequent Events	Occasional Events	Infrequent Events	Frequent Events	Occasional Events	Infrequent Events
Category 1: Buildings where vibration would interfere with interior operations	65 VdB[a]	65 VdB[a]	65 VdB[a]	N/A[b]	N/A[b]	N/A[b]
Category 2: Residences and buildings where people normally sleep	72 VdB	75 VdB	80 VdB	35 dBA	38 dBA	43 dBA
Category 3: Institutional land uses with primarily daytime use	75 VdB	78 VdB	83 VdB	40 dBA	43 dBA	48 dBA

Source: Federal Transit Administration 2018

a This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. For equipment that is more sensitive, a detailed vibration analysis must be performed.

b Vibration-sensitive equipment is generally not sensitive to ground-borne noise.

VdB = vibration decibel; dBA = A-weighted decibel; N/A = not applicable

Tables 3.11-4 and 3.11-5 include separate FTA criteria for ground-borne noise. Although the criteria are expressed in dBA, which emphasizes the more audible middle and high frequencies, the criteria are significantly lower than airborne noise criteria to account for the annoying low-frequency character of ground-borne noise. Ground-borne noise is a low-frequency rumbling sound inside buildings, caused by vibrations of floors, walls, and ceilings. Ground-borne noise is generally not a problem for buildings near railroad tracks at or above grade, because the airborne noise from trains typically overshadows effects of ground-borne noise. Ground-borne noise becomes an issue in cases where airborne noise cannot be heard, such as for buildings near tunnels.

Table 3.11-5: Federal Transit Administration Ground-borne Vibration and Ground-borne Noise Impact Criteria

	Ground-borne Vibration Impact Levels (VdB re 1 micro-inch/sec)		Ground-borne Noise Impact Levels (dBA re 20 micro-Pascals)	
Type of Building or Room	Frequent Events	Occasional or Infrequent Events	Frequent Events	Occasional or Infrequent Events
Concert Halls	65 VdB	65 VdB	25 dBA	25 dBA
TV Studios	65 VdB	65 VdB	25 dBA	25 dBA
Recording Studios	65 VdB	65 VdB	25 dBA	25 dBA
Auditoriums	72 VdB	80 VdB	30 dBA	38 dBA
Theaters	72 VdB	80 VdB	35 dBA	43 dBA

Source: Federal Transit Administration 2018
VdB = vibration decibel
dBA = A-weighted decibel

3.11.4 AFFECTED ENVIRONMENT

The proposed Project is located in the southern part of Stockton between Charter Way and SR 4, in San Joaquin County. Noise sensitive land uses in the noise and vibration RSA include Faith Tabernacle Assembly, the Islamic Center of Stockton, Temple La Hermosa, Galatians Community Church, the Pentecostal Church of Jesus, Union Park, and single-family and multi-family housing.

Existing noise sources in the study area include commuter rail operations, freight rail operations, roadway traffic, and general community activity. Substantial existing sources of vibration in the study area are commuter and freight rail operations.

Because the thresholds for noise impacts in FTA noise criteria are based on the existing noise levels, setting these existing levels is an important step for the assessment. These levels can either be set by measurement or modeling. Due to the current circumstances associated with the novel coronavirus (COVID-19), existing noise levels are lower than conditions prior to the COVID-19 pandemic. For example, freight volumes and traffic volumes are much lower than those prior to the pandemic. As such, if existing noise measurements were to be taken, the noise that would be measured would be lower than the conditions that would be more representative of typical operations and traffic volumes as a part of the existing environment. Because of this, the impacts associated with the proposed Project would not be representative of normal conditions. Therefore, modeling was used to establish the existing noise levels in the noise and vibration RSA. Using information from those measurements, as well as freight information from the FRA, local traffic data, and population data, the existing noise was modeled at all sensitive receptors in the noise and vibration RSA.

The existing noise levels were modeled to be between 54 dBA and 74 dBA Ldn, depending on proximity to the rail tracks, grade crossings, and crossover locations. The highest existing noise levels are at receivers located on both sides of the alignment close to the tracks, north of East

Jefferson Street, which is where northbound trains start to sound their horns as they approach the at-grade crossings north of the BNSF corridor in Stockton. The highest existing noise levels occur between East Lafayette Street and East Weber Avenue, east of the railroad corridor (74 dBA) and between East Hazelton Avenue and East Lafayette Street east of the railroad corridor (71 dBA) and west of the corridor (72 dBA).

Lower existing noise levels would be found at receivers south of East Jefferson Street, where train horns are not regularly sounded. Moreover, the lowest noise levels would be located at distances greater than 500 to 600 feet from the tracks, such as between East Anderson Street and East Charter Way west of the railroad corridor (58 dBA). At locations farther from the tracks, to both the east and west, the noise levels would decrease with increasing distance from the tracks and with shielding from intervening rows of buildings.

The sensitive land use for vibration is essentially the same as for noise, except that parkland is not considered a vibration-sensitive receptor. Because a general vibration assessment (rather than a detailed vibration analysis) was performed, existing vibration levels were not measured for this analysis.

3.11.5 ENVIRONMENTAL ANALYSIS

This section describes the environmental impacts on noise and vibration based on the proposed Project's potential to generate excessive noise levels or ground-borne vibration during construction and operation. This section also includes proposed mitigation measures for noise and vibration, as applicable.

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the proposed Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less than Significant Impact with Mitigation Incorporated. The City of Stockton does not have specific ordinances regarding the regulation of construction noise. However, the City's General Plan does reference that a project may use other agencies' applicable standards. San Joaquin County has limits on daytime and nighttime noise; the daytime noise limits are waived for construction activities. Thus, the FTA construction noise criteria were used for the basis of the short-term noise impact analysis. ~~construction activities for the proposed Project would not violate or exceed any standards established by the local general plan or noise ordinance. As a result, the short-term noise impact analysis was based on applicable standards of other agencies, such as FRA and FTA.~~

Construction of track improvements would include three basic activities: (1) site work, (2) rail work, and (3) structures work. During construction, the track alignment east of the existing active rail line would be shifted east, allowing for a majority of the necessary construction along the railroad and structures to be completed during daytime hours. However, to minimize impacts to passenger and freight rail operations, some construction work would be required during the nighttime hours ~~to connect the new and existing rail track lines~~. Nighttime construction activities would be limited to

track work and other construction necessary to connect the existing and relocated tracks. Noise-intensive pile driving would not be conducted during nighttime hours.

Table 3.11-6 summarizes typical estimated construction noise levels and residential noise impact screening distances for each of the planned construction activities. The noise estimates are based on scenarios for the construction activities, using FTA and FRA criteria described in Section 3.11.3. To be conservative, the screening distance estimates did not assume any noise reduction from intervening topography, buildings, or trees. The results of the analysis indicate that residences located within 135 feet of the site work, within 150 feet of the rail work, and within 270 feet of the structures work would be potentially exposed to construction noise exceeding the FTA's daytime threshold of 80 dBA Leq. The potential for noise impacts would be greatest during structures work at locations where pile driving is required for bridge construction. Construction activities would be considered to have an impact if they would generate noise exposure exceeding the FTA thresholds.

Table 3.11-6: Residential Noise Impact Assessment for Construction Activities

Construction Activity and Equipment	Noise Level at 50 feet (dBA)	Equipment Usage Factor (%)	8-Hour Leq at 50 feet (dBA)		Approx. Noise Impact Distance (feet)[a]
			Predicted Exposure	Daytime Criterion	
Site Work			**89**	**80**	**135**
Grader	85	53	82	--	--
Water Truck	84	44	80	--	--
D6 Dozer	85	61	83	--	--
D8 Dozer	85	45	82	--	--
Compactor	82	45	79	--	--
Dump Truck	84	23	78	--	--
Rail Work			**90**	**80**	**150**
Locomotive	88	25	82	--	--
D6 Dozer	85	38	81	--	--
Grader	85	38	81	--	--

Construction Activity and Equipment	Noise Level at 50 feet (dBA)	Equipment Usage Factor (%)	8-Hour Leq at 50 feet (dBA)		Approx. Noise Impact Distance (feet)[a]
			Predicted Exposure	Daytime Criterion	
Water Truck	**84**	**38**	**80**	**--**	**--**
Tamper	83	20	76	--	--
Aligner	85	20	78	--	--
Swinger	85	19	78	--	--
Welder	74	38	70	--	--
Flat Bed Truck	84	31	79	--	--
Pickup Truck	75	25	69	--	--
Sports Utility Vehicle	75	31	70	--	--
35 Ton Rough Terrain Crane	83	38	79	--	--
Flat Bed Tractor	84	13	75	--	--
Wheel Loader	80	28	74	--	--
Structures Work			**95**	**80**	**270**
Impact Pile Driver	101	20	94	--	--
Generator	82	90	82	--	--
75 Ton Mobile Crane	83	38	79	--	--
Water Truck	84	20	77	--	--
Flat Bed Truck	84	25	78	--	--
Pickup Truck	75	53	72	--	--

Construction Activity and Equipment	Noise Level at 50 feet (dBA)	Equipment Usage Factor (%)	8-Hour Leq at 50 feet (dBA)		Approx. Noise Impact Distance (feet)[a]
			Predicted Exposure	Daytime Criterion	
Concrete Mixer	85	13	76	--	--
Concrete Pump	82	18	75	--	--
Wheel Loader	80	20	73	--	--
Welder	74	31	69	--	--

L_{eq} = equivalent sound level; dBA = A-weighted decibel

Sensitive land uses located within the approximate impact distance would be exposed to noise levels exceeding the FTA's daytime criterion.

With the exception of the viaduct structure design option, which may require pile driving along the entire length of the flyover, bridge construction that requires extensive pile driving would not occur adjacent to sensitive receptors. For the embankment and retaining wall structure design options, sections of bridge construction requiring pile driving would be at the center of the flyover and at East Charter Way.

Nighttime construction near sensitive receptors would have greater impacts than daytime construction. The greatest noise impact is associated with impact pile driving, which is less intense near these receptors due to the type of structural work that is necessary near the residential neighborhoods. However, as previously stated, nighttime construction activities would be limited to track work and other construction necessary to connect the existing and relocated tracks, and noise-intensive pile driving would not be conducted during nighttime hours; thus short-term impacts related to nighttime noise work would be considered less than significant.

In addition, with the implementation of Measure MM NV-1, short-term noise impacts would be considered less than significant with mitigation incorporated. Measure MM NV-1 requires that mitigation be implemented to reduce planned construction noise in the form of a Noise Control Plan. The Noise Control Plan will be prepared in coordination with the City to ensure that City standards will not be violated during construction of the proposed Project. Components of this Noise Control Plan include avoiding the use of impact pile drivers at night, and, where possible, if construction activities were to occur near noise-sensitive areas, use quieter alternatives (for example, drilled piles) where geological conditions permit.

When measured at a distance of 25 feet, construction of the proposed Project can be expected to generate vibration levels as high as 94 VdB due to compactors during site work, 87 VdB due to bulldozers during rail work, and 104 VdB due to impact pile drivers during structures work. The PPV

associated with the construction activities would be as high as 0.21 in/sec for vibratory rollers during site work, 0.089 in/sec due to bulldozers during rail work, and 0.644 in/sec due to impact pile drivers during structures work.

As shown in Table 3.11-2, the damage threshold for non-engineered timber and masonry buildings is 0.2 in/sec. Therefore, the bulldozers and vibratory rollers that would be used for typical construction activities are unlikely to damage any of the existing structures located adjacent to the Project construction area.

For pile driving activities, it is anticipated that the potential for damage effects will be limited to structures located at distances in the range of 30 to 75 feet from the pile driving operations, depending on the building category.

Further, in terms of vibration annoyance effects or interference with the use of sensitive equipment, the potential extent of vibration impact from pile driving is expected to be greater than for damage effects. Table 3.11-7 provides the approximate distances within which receptors (there are no Category 1 receptors within the study area) could experience construction-related vibration annoyance effects based on FTA methodology. The results of the analysis indicate that vibration annoyance impacts would extend to distances of 230 to 290 feet from pile driving operations, 100 to 240 feet for compacting, and less than 130 feet for bulldozers, depending on the vibration sensitivity of the land use category. However, with the implementation of Measure MM NV-2, requiring the preparation and implementation of a vibration control plan that incorporates best practices and specifications to reduce the impact of temporary construction-related vibration on nearby vibration-sensitive land uses, short-term impacts from noise vibration on adjacent structures during construction would be mitigated and impacts would be considered less than significant.

Table 3.11-7: Approximate Screening Distances for Vibration Annoyance Effects from Pile Driving

Land Use Category	Vibration Criterion Level (VdB)	Approximate Vibration Impact Distance (feet)
Category 1 (Sensitive Buildings)	65	630
Category 2 (Residential Buildings)	72	290
Category 3 (Institutional Buildings)	75	230

[a] *See Table 3.11.3 for a description of land use categories.*

VdB = Vibration velocity

Based on the discussion above, with the implementation of Measures MM NV-1 and MM NV-2, short-term impacts would be considered less than significant.

San Joaquin County and the City of Stockton do not have specific ordinances regarding thresholds for rail noise. Therefore, the operational noise as a result of the proposed Project would not violate

or be in excess of any standards established by the local general plan or noise ordinance. As a result, the long-term noise impact analysis was based on applicable standards of other agencies, such as FRA and FTA.

Table 3.11-8 and Table 3.11-9 provide detailed information regarding operational noise impacts in the noise and vibration RSA, including locations, existing noise levels, change in noise levels, impact thresholds, and numbers of receivers (not structures) with severe and moderate impacts. Table 3.11-8 provides information on Category 2 residential noise impacts, while Table 3.11-9 provides information on Category 3 institutional noise impacts.

At many locations, as shown in Table 3.11-8 and Table 3.11-9, the noise levels are projected to decrease as a result of the proposed Project. Many of the at-grade crossings north of the diamond crossing will be closed or grade separated as a part of the proposed Project, and horns will no longer be sounded for trains traveling north from East Jefferson Street to East Church Street. Even with the elevation of the tracks, the noise levels will go down in the future at these locations, since the horn noise is so much louder than the other sources of noise on the trains.

Table 3.11-8: Category 2 (Residential) Noise Impacts

Location	Side of Track	Distance to Near Track (ft.)	Existing Noise Level (dBA)	Change in Noise Levels (dB)	FTA Criteria (dB)		Type and # of Impacts	
					Mod.	Sev.	Mod.	Sev.
East Weber Avenue to East Lafayette Street	NB	263	74	-2.1	0.5	2.3	0	0
East Weber Avenue to East Lafayette Street	SB	422	64	-3.2	1.5	3.8	0	0
East Lafayette Street to East Hazelton Avenue	NB	241	71	1.6	1.0	2.6	4	0
East Lafayette Street to East Hazelton Avenue	SB	723	72	-12.6	0.8	2.5	0	0
East Hazelton Avenue to BNSF Tracks	NB	621	69	-0.2	1.1	3.0	0	0
East Hazelton Avenue to BNSF Tracks	SB	No noise sensitive receivers						
BNSF Tracks to East Anderson Street	NB	613	71	-2.2	1.0	2.7	0	0

Location	Side of Track	Distance to Near Track (ft.)	Existing Noise Level (dBA)	Change in Noise Levels (dB)	FTA Criteria (dB)		Type and # of Impacts	
					Mod.	Sev.	Mod.	Sev.
BNSF Tracks to East Anderson Street	SB	639	68	-8.6	1.2	3.1	0	0
East Anderson Street to East Charter Way	NB	267	62	7.0	1.7	4.3	5	12
East Anderson Street to East Charter Way	SB	736	58	1.4	2.3	5.6	0	0
East Charter Way to East 2nd St	NB	No noise sensitive receivers						
East Charter Way to East 2nd St	SB	83	70	-0.7	1.0	2.8	0	0

Table3.11-9: Category 3 Institutional and Passive-Use Park Noise Impacts

Name	Location	Side of Track	Distance to Near Track (ft)	Existing Noise Level (dBA)	Change in Noise Levels (dB)	FTA Criteria (dB)		
						Mod.	Sev.	Impacts
Temple La Hermosa	East Weber Avenue to Lafayette Street	NB	926	64	-2.4	3.7	7.5	--
Galatians Community Church	East Weber Avenue to East Lafayette Street	SB	422	64	-3.2	3.6	7.4	--
Pentecostal Church of Jesus	East Weber Avenue to East Lafayette Street	SB	657	64	-3.5	3.7	7.5	--

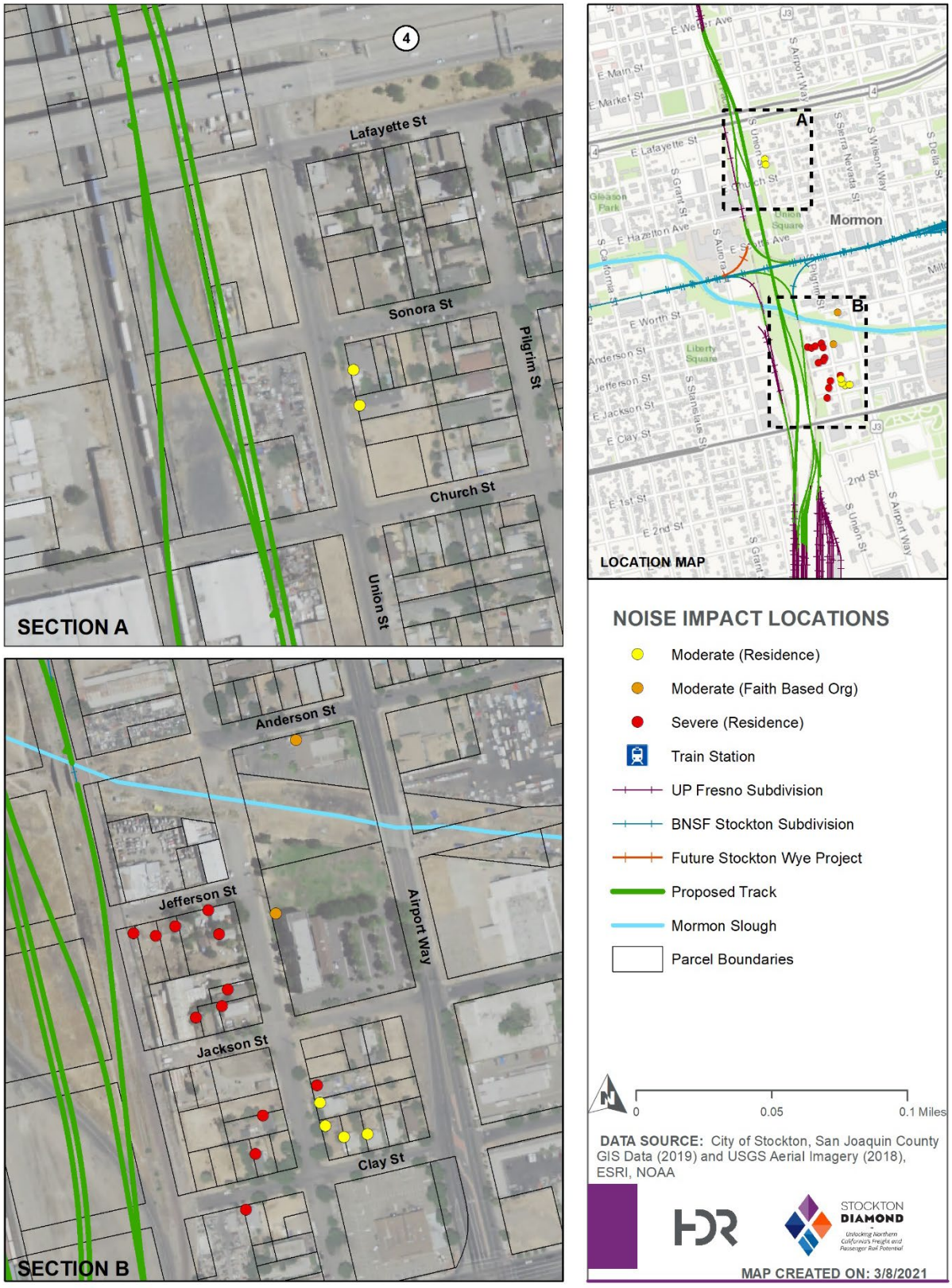
Name	Location	Side of Track	Distance to Near Track (ft)	Existing Noise Level (dBA)	Change in Noise Levels (dB)	FTA Criteria (dB)		
						Mod.	Sev.	Impacts
Faith Tabernacle Assembly	East Anderson Street to Charter Way	NB	773	59	7.9	5.1	9.7	Moderate
Islamic Center of Stockton	East Anderson Street to Charter Way	NB	628	56	8.0	5.8	10.7	Moderate
Union Park	East Hazelton Avenue to BNSF Tracks	NB	230	66	2.3	3.3	6.9	--

As shown in Table 3.11-8, there are four residences with moderate noise impacts (one single-family and one multi-family residence comprised of three residences) located along the northbound side of the proposed tracks between East Lafayette Street and East Hazelton Avenue. These impacts are due to the main line tracks moving closer to the residences and the elevated height of the main line flyover. In addition, there are five residences with moderate noise impacts (three single-family homes and one multi-family residence comprised of two residences) located south of the Stockton Diamond, between East Anderson Street and East Charter Way. These moderate noise impacts would occur as a result of the operation of new, elevated connecting tracks (approximately 2 to 4 feet above grade) shifted closer to sensitive receptors at the eastern side of the railroad corridor and the new, elevated main track flyover as it approaches its highest elevation point at the Diamond.

As shown in Table 3.11-9, there are two moderate noise impact at institutional receivers – Faith Tabernacle Assembly located on East Anderson Street and the Islamic Center of Stockton located on South Pilgrim Street. There are no noise impacts at Union Park. Figure 3.11-5 shows the moderate and severe noise impact locations.

Twelve single-family homes located between East Jefferson Street and East Clay Street and between the railroad corridor and South Pilgrim Street would experience severe noise impacts and require noise mitigation. Because of engineering and operational limitations of the proposed Project, including the multiple levels of the proposed tracks, track turnouts and clearance issues, noise barriers would not be a feasible option for noise mitigation. Therefore, sound insulation is recommended for the twelve residences with severe noise impacts.

Figure 3.11-5. Noise Impact Locations



Sound insulation programs are developed to reduce the interior noise levels in sleeping and living quarters in residential land uses or in noise-sensitive areas, such as schools and other institutional uses, to within the guidelines set by the U.S. Department of Housing and Urban Development. Under these guidelines, interior noise levels for residential land uses should not exceed a Ldn of 45 dBA, and a form of fresh air exchange must be maintained.

The air exchange can be achieved by installing an air conditioning unit for the residence. Sound insulation is normally only used on older dwellings with single-paned windows or in buildings with double-paned windows that are no longer effective because of leakage. Sound insulation testing would be conducted to determine the appropriate measures to improve the outdoor to indoor sound level reduction, such as improved windows, doors, or vents. Sound insulation would not reduce exterior noise levels.

With the implementation of Measure MM NV-3, requiring that sound insulation improvements be installed at the 12 residential homes that would be exposed to severe noise impacts, the interior noise levels at these residences would be mitigated and long-term noise impacts would be considered less than significant.

Because there are no vibration sensitive receivers within the screening distances (as defined in Section 3.11.4) for potential impact, there are no vibration impacts from operation projected for the proposed Project, and no long-term vibration impacts are anticipated.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Less than Significant Impact with Mitigation Incorporated. As discussed above, construction activities involving pile drivers occurring at the edge of or slightly outside of the current right-of-way could result in vibration impacts to nearby properties. However, with the implementation of Measure MM NV-2, requiring the preparation and implementation of a vibration control plan that incorporates best practices and specifications to reduce the impact of temporary construction-related vibration on nearby vibration-sensitive land uses, any generation of groundborne vibration and noise levels would be mitigated and not considered excessive in nature and short-term impacts related to groundborne noise and vibration would be considered less than significant.

Because there are no vibration sensitive receivers within the screening distances for potential impact (as defined in Section 3.11.4), there would be no excessive groundborne noise or vibration impacts from operations projected for the proposed Project Therefore, no long-term groundborne noise or vibration impacts are anticipated.

c) For a project located within a vicinity of private airstrip or 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?

No Impact. The proposed Project is not located within the vicinity of a private airstrip and the nearest public airport or public use airport is the Stockton Metropolitan Airport (SCK), which is located beyond two miles from the noise and vibration RSA, approximately four miles south of the

study area. Therefore, no short-term or long-term impacts related to excessive noise levels from airport use would occur under the proposed Project.

3.11.6 BEST MANAGEMENT PRACTICES AND/OR MITIGATION MEASURES

The following mitigation measures associated with noise and vibration would be applied to the proposed Project.

MM NV-1: Noise Control Plan. Prior to construction SJRRC will ensure that a noise control plan is prepared that will incorporate, at a minimum, the following best practices into the construction scope of work and specifications to reduce the impact of temporary construction-related noise on nearby noise-sensitive receptors. The Noise Control Plan will be developed in coordination with the City of Stockton in compliance with City standards. Components of the Noise Control Plan will include, but not be limited to, the following:

- Install temporary construction site sound barriers near noise sources.
- Use moveable sound barriers at the source of the construction activity.
- Avoid the use of impact pile drivers at night and, where possible, near noise-sensitive areas or use quieter alternatives (for example, drilled piles) where geological conditions permit.
- Locate stationary construction equipment as far as possible from noise-sensitive sites.
- Re-route construction-related truck traffic along roadways that will cause the least disturbance to residents.
- Use low-noise emission equipment.
- Implement noise-deadening measures for truck loading and operations.
- Line or cover storage bins, conveyors, and chutes with sound-deadening material.
- Use acoustic enclosures, shields, or shrouds for equipment and facilities.
- Use high-grade engine exhaust silencers and engine-casing sound insulation.
- Minimize the use of generators to power equipment.
- Limit use of public address systems.
- Grade surface irregularities on construction sites.
- Monitor and maintain equipment to meet noise limits.
- Implement noise monitoring during construction to ensure noise limits are met.
- Maintain active coordination with the City to identify potential options to retrofit residences closest to the construction with noise reduction window technology.

- Establish an active community liaison program to keep residents informed about construction and to provide a procedure for addressing complaints.

MM NV-2: Vibration Control Plan. Prior to construction, SJRRC will ensure that a vibration control plan is prepared and will incorporate, at a minimum, the following best practices into the construction scope of work and specifications to reduce the impact of temporary construction-related vibration on nearby vibration-sensitive land uses will be prepared and implemented.

- Avoid the use of impact pile drivers where possible near vibration-sensitive areas or use alternative construction methods (for example, drilled piles) where geological conditions permit.
- Avoid vibratory compacting/rolling in close proximity to structures.
- Require vibration monitoring during vibration-intensive activities.

In the event building damage occurs due to construction, repairs would be made, or compensation would be provided by SJRRC.

MM NV-3: Reductions for Severe Noise Impacts. Prior to construction, SJRRC will ensure that sound insulation improvements will be installed in the residential properties that would be exposed to severe noise impacts. The goal of these improvements is to reduce the interior noise levels to below the 45 dBA Ldn noise threshold set by the U.S. Department of Housing and Urban Development. In addition to the sound insulation improvements, a form of fresh air exchange must be maintained. The air exchange can be achieved by installing an air conditioning unit for the residence. Sound insulation is normally only used on older dwellings with single-paned windows or in buildings with double-paned windows that are no longer effective because of leakage. Sound insulation testing would be conducted to determine the appropriate measures to improve the outdoor to indoor sound level reduction, such as improved windows, doors or vents.

3.12 Population and Housing

3.12.1 INTRODUCTION

This section describes the population and housing characteristics of the RSA, including race, ethnicity, poverty status, employment, and housing, and evaluates the potential temporary and permanent impacts of the proposed Project on populations within the population and housing RSA. This section also addresses the proposed Project's consistency with applicable federal, state, and local regulations, policies, and goals.

3.12.2 REGULATORY SETTING

This section identifies the applicable federal, state, and local laws, regulations, and orders that are relevant to the analysis of population and housing conditions; it also addresses whether the proposed Project would be in compliance with the regulations described herein. Although not required as part of the CEQA analysis, due to the comments received regarding environmental justice (EJ) during the Project scoping meetings, an analysis of EJ communities is addressed in Chapter 5, *Environmental Justice*. A full analysis of the socioeconomic impacts of the proposed Project can be found in Chapter 5, *Environmental Justice*.

Federal Plans, Policies, and Regulations

Uniform Relocation Assistance and Real Property Acquisition Policies Act (42 USC 61)

The Uniform Relocation Assistance and Real Property Acquisition Policies Act is a federal law that establishes requirements for federally funded programs and projects that require the acquisition of real property or relocation of persons from their homes, businesses, or farms.

State Plans, Policies, and Regulations

California Relocation Act (California Gov. Code Sections 7260 et seq.)

In parallel with the federal law, the California Relocation Act requires state and local governments to provide relocation assistance and benefits to persons displaced as a result of projects undertaken by state or local governments that do not involve federal funds.

Local Plans, Policies, and Regulations

San Joaquin County General Plan (2016)

San Joaquin County adopted the *San Joaquin County General Plan* in December 2016. The General Plan provides a comprehensive framework to address the current issues in the County as well as the vision for the future and strategies to achieve such visions. The plan includes the following pertinent goals and policies:

- **Goal TM-1.17**: The County shall minimize social and economic disruptions to communities resulting from the maintenance and construction of the transportation system.

Envision Stockton 2040 General Plan

The City of Stockton adopted the *Envision Stockton 2040 General Plan* on December 4, 2018. The General Plan provides a comprehensive, long-range statement of the jurisdiction's population and housing policies for the coming decades. The plan is the government's primary tool to guide physical change within the city limits, and in some cases beyond it in a sphere of influence where City services someday may be provided. It sets goals, policies and actions intended to boost the economy and improve community facilities and well-being. The plan includes the following pertinent goals and policies:

- **Policy CH-4.2:** Support the homeless members of the Stockton community with programs to improve quality of life.
    - **Action CH-4.2A:** Coordinate with local and regional agencies and community organizations to address the needs of homeless people, including shelter, food, clothing, health care, mental health, and transportation.
    - **Action CH-4.2B:** Provide information about shelter and food assistance programs via the range of the City's communication tools.

Consistency with Plans, Policies, and Regulations

The proposed Project would comply with all relevant federal, state, and local policies and regulations as they relates to population and housing. The proposed Project would ensure that all regulations related to population, population growth and housing conditions are followed, which includes compliance with all applicable goals and policies set forth by the County and City general plans.

3.12.3 METHODS FOR EVALUATING IMPACTS

This section defines the population and housing RSA and describes the approach for the analysis of population and housing in the RSA as a result of implementation of the proposed Project. This section focuses on population and housing in the RSA to provide an understanding of how existing and future population and housing growth would be affected by construction and operation of the proposed Project.

Definition of Resource Study Area

As defined in Section 3.0~~1~~, *Introduction,* RSAs are the geographic boundaries in which the environmental investigations for the proposed Project have been conducted specific to each resource topic. The RSA for population and housing is defined by the permanent construction limits, proposed staging areas, and a half-mile buffer. This includes all census tract block groups within the half-mile buffer for the collection and analysis of U.S. Census Bureau data.

Methods for Data Collection and Analysis

The population and housing RSA includes all U.S. Census Bureau census tract block groups located within or adjacent the proposed Project RSA. This section summarizes 2018 American Community Survey (ACS) 5-year estimates of data on population and housing characteristics in the population and housing RSA and San Joaquin County. As shown in Figure 3.12-1, 22 census tract block groups are located in the RSA; these are identified in Table 3.12-1.

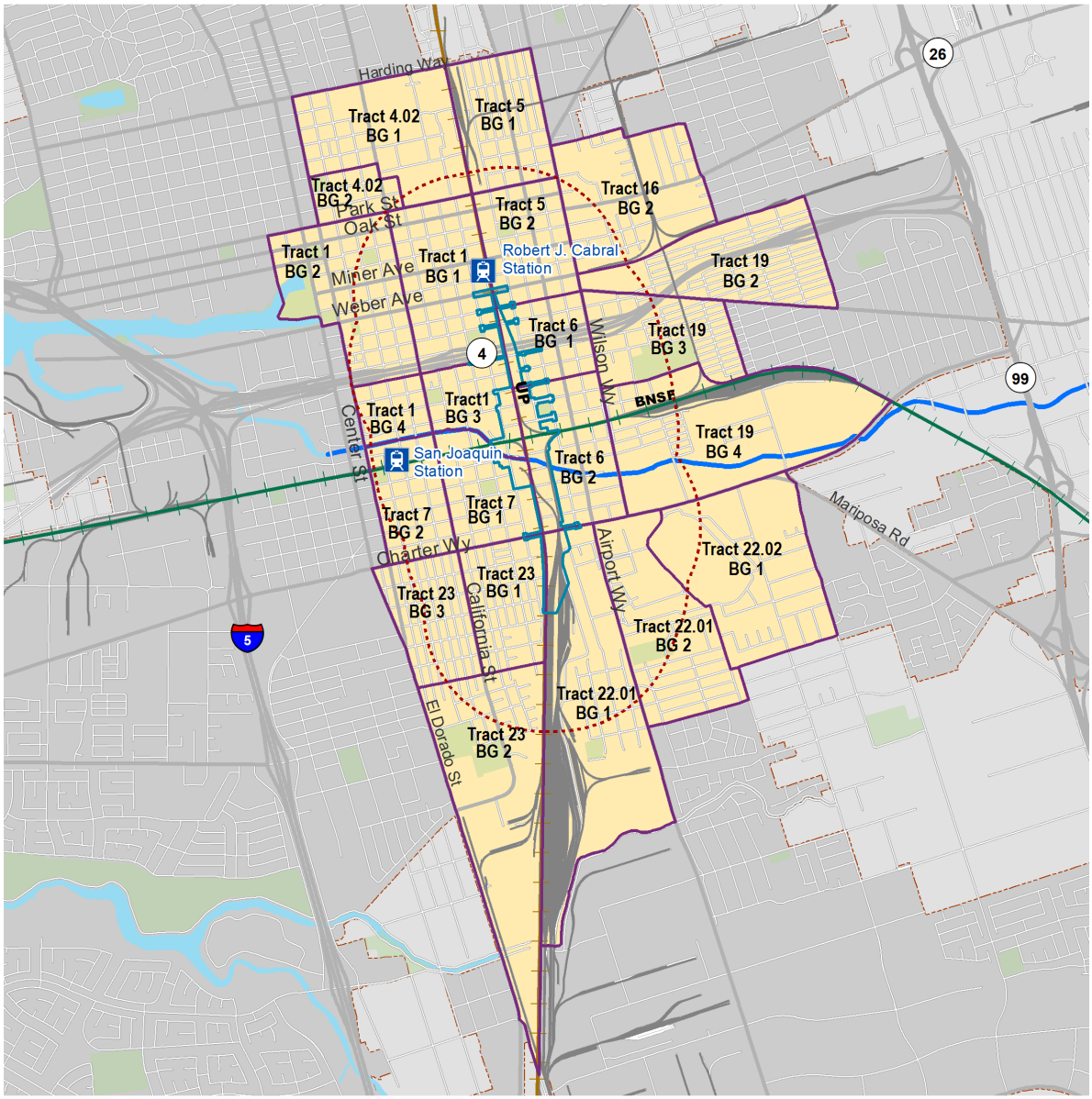
Methods for Impact Analysis

Both quantitative and qualitative analyses were performed in order to evaluate potential impacts on populations and housing, including:

- An induced growth analysis focused in the area served by the proposed project.
- A review of the following relevant planning documents to determine the level of planned growth in these areas:
    - *San Joaquin County General Plan* (San Joaquin County 2016);
    - *Envision Stockton General Plan 2040* (City of Stockton [2018]);
    - *SJCOG 2018 Regional Transportation Plan/Sustainable Communities Strategy* (SJCOG 2018).
- Examination of temporary and indirect impacts on communities during the operation and construction of the proposed Project.

This section analyzes the proposed Project's impact on population and housing within the RSA. For an impacts analysis specifically related to socioeconomics and the effect of the proposed Project on minority and low-income populations, see Chapter 5, *Environmental Justice*.

Figure 3.12-1: Census Tract Block Groups in the Population and Housing Resource Study Area



CENSUS BLOCK GROUPS

0 0.5 1 Miles

DATA SOURCE: City of Stockton and San Joaquin County GIS Data

- Train Station
- UPRR Fresno Subdivision
- BNSF Stockton Subdivision
- Major Streets/Highways
- Mormon Slough
- Project Construction Limits
- Census Block Groups
- Study Area Half Mile Buffer
- Park
- Stockton

MAP CREATED ON: 2/1/2021

Table 3.12-1: Census Tract Block Groups in the Resource Study Area

Census Tract	Block Groups	Census Tract	Block Group(s)
1	1, 2, 3, 4	16	2
4.02	1, 2	19	2, 3, 4
5	1, 2	22.01	1, 2
6	1, 2	22.02	2
7	1, 2	23	1, 2, 3

Method for Determining Significance under CEQA

The thresholds of significance for impacts were developed consistent with the CEQA Guidelines to determine the significance of potential impacts in relation to population and housing that could result from implementation of the proposed Project. The population and housing analysis is based on CEQA Guidelines Appendix G, Population and Housing criteria. Accordingly, the following criteria were assessed:

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

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

3.12.4 AFFECTED ENVIRONMENT

Population

Table 3.12-2 presents historical, current, and projected population trends for San Joaquin County and the City of Stockton. The California Department of Finance (DOF) estimates that San Joaquin County's total population increased from 563,598 in 2000 to 773,632 in 2020, a 37.3 percent increase over the 20-year period (DOF 2012; DOF 2020b).

Table 3.12-2. Historic, Current, and Projected Population, 2000–2035

Location	Historic/Current Trends				Projected Conditions	
	2000	2010	2020	Percent Change 2000-2020	2035	Percent Change 2000-2035
City of Stockton	243,771	291,275	318,522	30.7%	401,961	64.9%
San Joaquin County	563,598	684,057	773,632	37.3%	947,835	68.2%

Sources: DOF 2012; DOF 2020b; SJCOG 2018

The City of Stockton grew at a slightly lower annual rate than San Joaquin County as a whole from 2000 to 2020, with a growth rate of 30.7 percent. Populations are projected to increase by 68.2 percent in San Joaquin County and 64.9 percent in Stockton between 2000 and 2035 (DOF 2012; DOF 2020b; SJCOG 2018).

Housing

Table 3.12-3 presents housing trends as well as the percentage of single-family dwellings, vacancy rates, and average household size for San Joaquin County and the City of Stockton. According to DOF, the total number of housing units in San Joaquin County was 249,058 in 2020, with single-family homes comprising approximately 78.2 percent of the total number of housing units. San Joaquin County had an average household size of 3.23 persons per unit and a vacancy rate of 5.7 percent. The City of Stockton had a slightly smaller percentage of single-family homes (72.0 percent), a similar number of persons per household (3.26 persons), and a slightly higher vacancy rate (6.1 percent) than San Joaquin County as a whole (DOF 2020b).

Table 3.12-3: Housing Trends and Characteristics, 2000-2020]

Location	Housing Unit Trends			Characteristics (2020)		
	2000	2010	2020	Single Family (%)	Vacancy (%)	Average Persons per Household
City of Stockton	82,042	99,637	101,235	72.0%	6.1%	3.26
San Joaquin County	189,160	233,755	249,058	78.2%	5.7%	3.23

Sources: DOF 2012; DOF 2020b

Table 3.12-4 presents the projected increase in housing units by 2035 for San Joaquin County and the City of Stockton. San Joaquin County's total number of housing units is projected to increase to 314,470 in 2035, a 26.3 percent increase between 2020 and 2035 (DOF 2020b; SJCOG 2018). The number of housing units in the City of Stockton is expected to increase to 131,461 in 2035, an increase of 29.9 percent over the 15-year period (DOF 2020b; SJCOG 2018).

Table 3.12-4: Projected Housing Units, 2035

Location	Projected Housing Units (2035)	Percent Increase from 2020
City of Stockton	131,461	29.9%
San Joaquin County	314,470	26.3%

Sources: DOF 2020b; SJCOG 2018

Population and housing growth are not, in and of themself, an environmental impact. However, there may be indirect impacts associated with unplanned population and housing growth or intensified development. The population and housing growth analysis assumes that any substantial unplanned population growth that could be induced by the proposed Project would result from three factors:

1) If the proposed project would result in a substantial amount of permanent employment that results in a substantial amount of unplanned growth.

2) If the proposed improvements indirectly facilitate land use changes in the immediate vicinity of the population and housing RSA that would result in substantial amounts of unplanned growth.

3) If implementation of the proposed Project would substantially increase housing demand beyond planned levels.

Transient Populations

The population and housing RSA also includes a large unhoused transient population that inhabits the dry Mormon Slough that runs through the center of the population and housing RSA, just south and west of the Stockton Diamond. These populations are not legally permitted to live in this location and may or may not have been counted by the U.S. Census Bureau; however, the large presence of these transient populations would require relocation prior to and during Project construction. Figure 3.12-2 illustrates the locations of the existing homeless encampments within the Mormon Slough. Generally, as the figure shows, the unhoused transient populations are occupying the part of the slough area to the west of the existing UP Fresno main line tracks.

Figure 3.12-2: Existing Transient Population Homeless Encampments in the Mormon Slough

3.12.5 ENVIRONMENTAL ANALYSIS

CEQA Significance Findings

An environmental analysis of each threshold identified is provided, below:

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)?

No Impact. Under the proposed Project, temporary construction jobs would be created on a short-term basis and could be filled by the current workforce in the region. However, construction jobs

would cease upon completion of proposed Project construction. Therefore, permanent jobs that could cause substantial or unplanned growth within the population and housing RSA, and thereby necessitate the construction of additional housing and/or business services to serve this substantial or unplanned growth, would not occur as a result of the proposed Project.

The proposed Project would involve the grade separation of two principal railroad lines at the Stockton Diamond, which is currently the busiest at-grade railway junction in California. The proposed Project would reduce rail congestion and allow for an uninterrupted flow of passenger and freight rail traffic though the crossing, improve freight mobility leading to lower costs for freight shipping, reduce delays for passenger and rail providers, and result in an overall decrease in fuel consumption. As discussed in Section 3.10, *Land Use and Planning*, the proposed Project would permanently convert 10.87 acres of industrial land uses to transportation land uses, which is less than 1 percent of the City's industrial zoned land. The conversion of industrial land use to transportation use would not result in substantial amounts of unplanned growth that would require the need for additional housing units.

While the benefits of the proposed Project would include improving passenger and freight rail operations and making rail transit a more attractive mode choice for those utilizing the current transportation system, it would not result in changes to the volume of the overall commuters in the City of Stockton or larger region. Further, because the proposed Project is limited to track improvements that would not provide any direct opportunities for people to board or alight trains within the community, substantial or unplanned growth in population would not occur. As a result, the proposed Project would not substantially increase housing demand in the population and housing RSA or trigger a need for the construction of additional infrastructure or the implementation of additional infrastructure improvements.

Based on the discussion above, the proposed Project would not result in substantial unplanned population growth in an area, either directly through the need for the construction of new homes and businesses or indirectly through extension of roads or other infrastructure. As a result, no short-term or long-term growth impacts related to the proposed Project are anticipated.

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

Less than Significant Impact. Prior to and during construction, transient populations currently occupying part of the Mormon Slough would need to be temporarily relocated. With the implementation of Measure BMP PH-1, preparation of an Outreach and Engagement Plan, SJRRC would pro-actively coordinate with the City, County, as well as local community stakeholder groups, to assist these populations in finding alternative housing options consistent with the strategies, goals, and policies of the San Joaquin County Community Response to Homelessness Strategic Plan, and San Joaquin County's policies related to homelessness described above. In addition, the Outreach and Engagement Plan will include input on goals and policies from stakeholder groups familiar with the issues and challenges related to the transient populations currently occupying a portion of the Mormon Sough. With the implementation of Measure BMP PH-1, short-term and long-term impacts would be considered less than significant.

As discussed in Section 3.11, *Land Use and Planning*, full and partial acquisition and TCEs would be limited to industrial use properties. No residential properties would be partially or fully acquired as part of the proposed Project. Therefore, the proposed Project would not displace any existing residences that could potentially trigger the construction of replacement residential housing within the population and housing RSA. Therefore, there would be no long-term impacts on housing with the proposed Project.

3.12.6 BEST MANAGEMENT PRACTICES AND/OR MITIGATION MEASURES

The following BMP measure associated with population and housing would be applied for the proposed Project.

BMP PH-1: Outreach and Engagement Plan. SJRRC will actively coordinate with the City, County, and local stakeholder groups before and during proposed Project construction to prepare and implement an Outreach and Engagement Plan to address the homeless encampments that are present within the Mormon Slough area. The Outreach and Engagement Plan will include input on goals and strategies from local stakeholder groups, as well as established goals and policies of the County's Community Response to Homelessness Strategic Plan. The Outreach and Engagement Plan will focus on a targeted proactive response for temporary and permanent relocation assistance for transient populations affected by the proposed Project.

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3.13 Public Services

3.13.1 INTRODUCTION

This section describes the effects of the proposed Project on public facilities that include schools, health facilities, libraries, community organizations, fire protection facilities, and police protection facilities.

3.13.2 REGULATORY SETTING

This section identifies the applicable federal, state, and local laws, regulations, and orders that are relevant to the analysis of parks, recreation, and public facilities in this EIR. It also states whether or not the proposed Project would be in compliance with the regulations described herein.

Federal Plans, Policies, and Regulations

There are no federal regulations related to public services.

State Plans, Policies, and Regulations

California Fire Code

The California Fire Code incorporates, by adoption, the International Fire Code of the International Code Council, with California amendments. This is the official Fire Code for the State and all political subdivisions. The California Fire Code is located in Part 9 of Title 24 of the California Code of Regulations. The California Fire Code is revised and published every three years by the California Building Standards Commission.

California Health and Safety Code

The California Health and Safety Code establishes regulations pertaining to the abatement of fire-related hazards. This Code also requires that local jurisdictions enforce the State Building Standards Code, which provides standards for fire-resistant building and roofing materials and other fire-related construction methods.

Regional and Local Plans, Policies, and Regulations

San Joaquin County General Plan

San Joaquin County adopted the San Joaquin County General Plan on December 2016. The General Plan provides a comprehensive framework to address the current issues in the County as well as the vision for the future and strategies to achieve such visions. The general plan includes the following pertinent goals and policies:

- Goal IS-1.1: The County shall strive to ensure that adequate public facilities and services essential for public health and safety are provided to all County residents and businesses and

maintained at acceptable service levels. Where public facilities and services are provided by other agencies, the County shall encourage similar service level goals.

In addition, the general plan includes the following guiding principles:

- Promote regional and interstate transit connections to reduce automobile trips.
- Create safe and efficient connections (e.g. auto, transit, bike, and pedestrian) between cities and unincorporated communities.
- Enhance goods movement infrastructure (i.e., truck routes, railways, shipping channels, and airports) efficiency to regional and international destinations.
- Enhance and maintain existing infrastructure and services to meet the unique circumstances of each unincorporated community and the needs of residents and businesses.
- Ensure development does not outpace the provision of services and infrastructure (e.g., water, sewer, drainage).
- Maintain law enforcement and fire protection services to protect residents and property.

City of Stockton General Plan

The general plan includes the following pertinent goals and policies: The following *Envision Stockton 2040 General Plan* policies and implementing actions are relevant to this Project:

- **Policy CH-1.1.** Maintain walking and wheeling facilities and parks that are safe and accessible in all areas of Stockton.
- **Policy LU-6.3**. Ensure that all neighborhoods have access to well-maintained public facilities and utilities that meet community service needs.
- **Action LU-6.3A**. Require development to mitigate any impacts to existing sewer, water, stormwater, street, fire station, park, or library infrastructure that would reduce service levels.
- **Action SAF-1.2A**. Update the City's Design Guidelines and Development Code to require new and retrofitted development to support effective police and fire protection response and services by using the following principles of crime prevention through environmental design:
  - Delineate private and public spaces;
  - Enhance visibility;
  - Control property access; and
  - Ensure adequate property maintenance.
- **Action SAF-2.2A**. Require new development to provide adequate access for emergency vehicles and evacuation routes, including by designing roadway systems to provide multiple escape routes in the event of a levee failure.

Stockton Municipal Code

Chapter 3.52, *Funding for Police and Fire Protection Services*, of the Stockton Municipal Code was adopted to provide a source of revenue for maintaining the City's current level of police and fire protection services and undertake necessary capital projects to support these services.

Section 15.12.010, *Fire Code, incorporates the California Fire Code*, 2019 Edition, by reference and adopts the California Fire Code as the Fire Code of the City of Stockton.

Consistency with Plans, Policies, and Regulations

The proposed Project would comply with all applicable federal, state, and local policies and regulations as it relates to public facilities. The proposed Project would ensure that all public facilities regulations are followed, which includes compliance the CBC, and all applicable goals and policies set forth by the County and City general plans.

3.13.3 METHODS FOR EVALUATING IMPACTS

This section defines the public services RSA and describes the methods used to determine the impacts of proposed Project construction and operation on public facilities.

Definition of Resource Study Area

As defined in Section 3.0~~1~~, RSAs are the geographic boundaries within which the environmental investigations specific to each resource topic were conducted. The RSA for impacts on public facilities encompasses the areas directly and indirectly affected by construction and operation of the Project, which is defined as the permanent construction limits, proposed staging areas, and a 1,000-foot buffer.

Methods for Data Collection and Analysis

For the analysis, GIS data and aerial imagery were collected on public facilities within the RSA. Potential impacts from construction and operation of the proposed Project on these resources were evaluated through the following methods:

- Aerial imagery from Google Earth and collection of GIS data from the City of Stockton to identify public facilities within a 1000-foot radius of the Project construction limits (that is, the RSA);
- GIS analysis to measure the distance of the public facilities from the Project construction limits and the proposed tracks;
- Analysis of the construction methods, rights-of-way, and staging areas to identify if there would be any access barriers;
- Evaluation of temporary construction easement locations and construction activity that could impact the community use of public facilities; and
- Analysis of the requirements of all plans, policies, and regulations listed in the regulatory context noted above.

Method for Determining Significance under CEQA

The thresholds of significance for impacts were developed consistent with the CEQA Guidelines (Appendix G) to determine the significance of potential impacts in relation to public services that could result from implementation of the proposed Project. Accordingly, the following criteria were assessed:

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

   i. Fire protection;

   ii. Police protection;

   iii. Schools; or

   iv. Other public facilities.

3.13.4 AFFECTED ENVIRONMENT

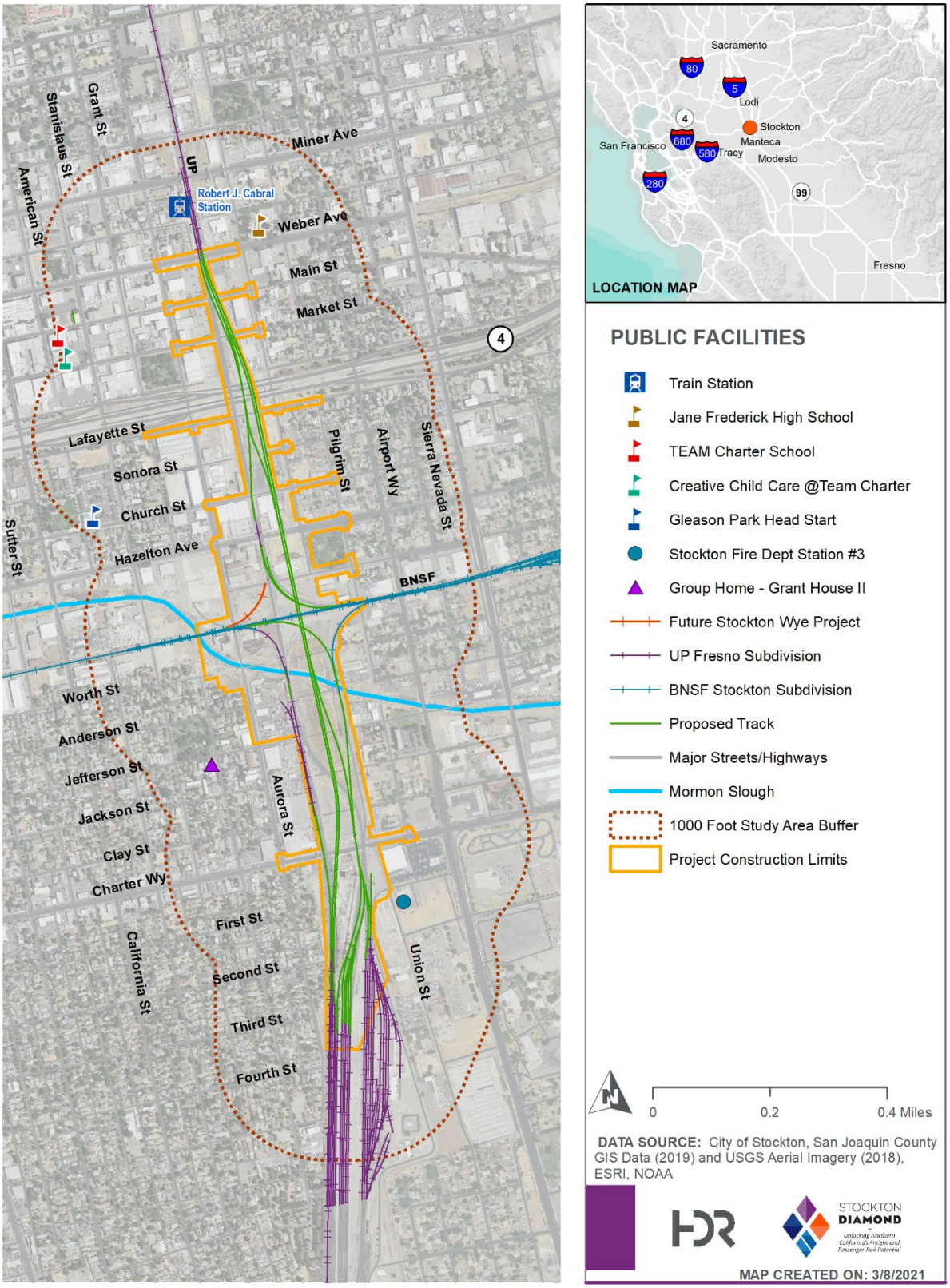
This section describes the affected environment related to parks, recreational facilities, and public facilities Figure 3.13-1 provides an overview of the location of public facilities within the public services RSA.

Educational Facilities and Other Community Resources

The proposed Project is located within the boundaries of the Stockton Unified School District (USD). Stockton USD is made up of 37 Head Start classes, 53 state preschool classes, three First 5 preschool classes, 41 K-8 schools, four comprehensive high schools, three small high schools, an alternative high school, a special education school, a school for adults, and five dependent charter schools (Stockton USD 2020a). The nearest school to the Project site is Jane Frederick Continuation High School, approximately 0.04 miles to the northeast of the Project construction limits. Other educational facilities in the public services RSA, all located east of Stanislaus Street, include: TEAM Charter School and Academy; Creative Child Care at TEAM Charter; and Gleason Park Head Start.

In addition, there is a group home in the public services RSA—Grant House II—for people of all ages in need of mental health and substance abuse recovery and support services. The facility is located at South Grant Street and East Jefferson Street, across from Liberty Park.

Figure 3.13-1: Public Facilities



Fire Protection Services

The Stockton Fire Department (SFD) provides fire protection and emergency medical services to a 90-square-mile area serving a population of approximately 336,000 people within the City of Stockton and the Boggs Tract, Lincoln, Eastside, and Tuxedo-Country Club Fire Protection Districts. The SFD is comprised of 217 staff members, including 182 sworn fire personnel and 35 civilian personnel (City of Stockton 2020d).

The SFD has 12 fire stations throughout the City, which house 12 three-person fire engine companies and three four-person truck companies. Each fire station has one fire engine and the truck companies are located at Stations 2, 3, and ~~4~~7. Fire Station 3 (1116 East First Street), is the fire station nearest the proposed Project, and located within the public services RSA.

Police Protection Services

The Stockton Police Department (SPD) provides service to a 65-square-mile area serving 320,600 people within the city limit. The SPD is comprised of 712 staff members, including 486 sworn police officers, 47 police telecommunicators, and 179 civilian personnel (City of Stockton 2020f). There are three police stations in the City of Stockton; however, none of these are located in the public services RSA.

Other Public Services

The Stockton-San Joaquin County Public Library currently operates five facilities in the city; however, none of these facilities are located in the public services RSA. The nearest library to the proposed Project site is the Cesar Chavez Central Library, approximately 0.7 miles to the northwest.

Public health care in San Joaquin County is available through the San Joaquin General Hospital, approximately 3.5 miles south of the Project site. Additional private hospitals in the City include Dameron Hospital and Saint Joseph's Medical Center, each over a mile away from the Project site. There are no hospital facilities in the public services RSA.

There are no other public facilities in the public services RSA.

3.13.5 ENVIRONMENTAL ANALYSIS

This section describes potential environmental impacts on public facilities that could result from implementing the Project.

CEQA Significance Findings

An environmental analysis of each threshold identified is provided below.

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

i. Fire protection

Less than Significant Impact. As shown in Figure 3.13-1, the nearest fire station, Fire Station 3, is located south of East Charter Way, outside of the Project construction limits. Although Fire Station 3 would not be directly impacted during construction, indirect impacts may occur related to emergency vehicle access that may be impeded during construction due to nearby temporary road closures.

A TMP, identified in Measure BMP TRA-7 (see Section 3.15, *Transportation*), would be implemented during construction to include alternative routing plans and methods. The TMP will take emergency vehicle routing into consideration, in coordination with the City of Stockton. The nearest fire stations to the public services RSA would be notified, as appropriate, of traffic control plans during construction to coordinate emergency response routing. With the implementation of Measure BMP TRA-7, short-term impacts would be considered less than significant, and no mitigation is required.

The proposed Project is limited to operational improvements to an existing transportation facility and would not be considered growth inducing ~~and access in and around the new grade separation would be improved upon completion of the proposed Project~~. Although the proposed Project would result in permanent road closures at East Lafayette and East Church Streets, nearby parallel streets would remain accessible, allowing emergency access vehicles to use other routes to cross the tracks. The permanent road closures and alternative routing plans would be addressed comprehensively in coordination with the City of Stockton during final design of the proposed Project. This would occur as part of the CPUC GO 88B diagnostic review process, identified as Measure BMP TRA-8, in Section 3.15, Transportation.

~~During operation of the proposed Project, emergency vehicles would benefit from improved local mobility~~ In addition, with the proposed flyover, there would be fewer delays at crossings since there would be substantially less “gate down” time for a train to travel through the rail corridor. Therefore, with the implementation of Measure BMP TRA-8, the proposed Project would not result in the need for new or physically altered fire protection facilities in the long-term. No long-term impacts related to fire protection would occur, and no mitigation is required.

ii. Police protection

Less than Significant. There are no police stations in the public services RSA; therefore, no police stations would be directly impacted with the proposed Project. However, indirect impacts may occur related to emergency vehicle access that may be impeded during construction due to nearby temporary road closures. A TMP, identified in Measure BMP TRA-7 (see Section 3.15, *Transportation*) would be implemented during construction to include alternative routing plans and methods. The TMP will take emergency vehicle routing into consideration, in coordination with the City of Stockton. The nearest police stations to the public services RSA would be notified, as appropriate, of traffic control plans during construction to coordinate emergency response routing. With the implementation of Measure BMP TRA-7, short-term impacts would be considered less than significant, and no mitigation is required.

As previously stated, the proposed Project is limited to operational improvements to an existing transportation facility and would not be considered growth inducing. Although the proposed Project would result in permanent road closures at East Lafayette and East Church Streets, nearby parallel streets would remain accessible, allowing emergency access vehicles to use other routes to cross the tracks. Additionally, the permanent road closures and alternative routing plans would be addressed comprehensively in coordination with the City of Stockton during final design of the proposed Project. This would occur as part of the CPUC GO 88B diagnostic review process, identified as Measure BMP TRA-8, in Section 3.15, Transportation ~~and access in and around the new grade separation would be improved upon completion of the proposed Project. During operation of the proposed Project, emergency vehicles would benefit from improved local mobility. With the proposed flyover, there would be fewer delays at crossings since there would be substantially less "gate down" time for a train to travel through the rail corridor~~.

Therefore, the proposed Project, with the implementation of Measure BMP TRA-8, would not result in the need for new or physically altered police protection facilities in the long-term, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives. As a result, no long-term impacts would occur, and no mitigation is required.

iii. Schools

Less than Significant. As shown in Figure 3.13-1, four schools are identified in the public services RSA: Jane Frederick High School, TEAM Charter School, Creative Child Care at TEAM Charter, and Gleason Park head start.

Construction of the proposed Project would not result in any direct physical impacts on schools, nor an increased demand for school facilities. However, indirect impacts may occur related to emergency vehicle access that may be impeded during construction due to nearby temporary road closures. A TMP, identified in Measure BMP TRA-7 (see Section 3.15, *Transportation*) would be implemented during construction to include alternative routing plans and methods. The TMP will inform residents of temporary closures or alternative routes during construction. The schools located within the public services RSA would be notified, as appropriate, of traffic control plans during construction to coordinate alternative access. With the implementation of Measure BMP TRA-7, short-term impacts would be considered less than significant, and no mitigation is required.

As previously stated, the proposed Project is limited to operational improvements to an existing transportation facility and would not be considered growth inducing. Although the proposed Project would result in permanent road closures at East Lafayette and East Church Streets, nearby parallel streets would remain accessible, allowing emergency access vehicles to use other routes to cross the tracks. Additionally, the permanent road closures and alternative routing plans would be addressed comprehensively in coordination with the City of Stockton during final design of the proposed Project. This would occur as part of the CPUC GO 88B diagnostic review process, identified as Measure BMP TRA-8, in Section 3.15, Transportation

~~and access in and around the new grade separation would be improved upon completion of the proposed Project~~.

~~During operation of the proposed Project, emergency vehicles would benefit from improved local mobility~~ In addition, with the proposed flyover, there would be fewer delays at crossings since there would be substantially less "gate down" time for a train to travel through the rail corridor and access to the school facilities located within the public services RSA would not be directly impacted with the proposed Project; thus, there would be no need for new or physically altered school facilities in the long-term. Therefore, with the implementation of Measure BMP TRA-8, no long-term impacts would occur, and no mitigation is required.

iv. Other public facilities

No Impact. As stated above, the Stockton-San Joaquin County Public Library currently operates five facilities in the city; however, none of these facilities are located in the public services RSA. The nearest library to the proposed Project site is the Cesar Chavez Central Library, approximately 0.7 mile to the northwest. In addition, public health care in San Joaquin County is available through the San Joaquin General Hospital, approximately 3.5 miles south of the proposed Project site. Additional private hospitals in the City include Dameron Hospital and Saint Joseph's Medical Center, each over a mile away from the proposed Project site. There are no hospital facilities in the public services RSA.

Construction and operation of the proposed Project would not result in an increased demand for other public facilities. With the proposed Project, there would be no need for other new or physically altered public facilities, the construction of which could cause significant environmental impacts. As a result, no short-term or long-term impacts are anticipated.

3.13.6 BEST MANAGEMENT PRACTICES AND/OR MITIGATION MEASURES

No BMP or mitigation measures are required for public services under the proposed Project.

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3.14 Recreation

3.14.1 INTRODUCTION

This section describes the effects of the proposed Project on recreational facilities.

3.14.2 REGULATORY SETTING

This section identifies the applicable federal, state, and local laws, regulations, and orders that are relevant to the analysis of parks, recreation, and public facilities in this EIR. It also states whether the proposed Project would be in compliance with the regulations described herein.

Federal Plans, Policies, and Regulations

No federal plans, policies, and regulations are applicable to the proposed Project.

State Plans, Policies, and Regulations

California Public Park Preservation Act (California PRC 5400 to 5409)

The California Public Park Preservation Act ensures that any public agency that acquires public park areas for non-park or recreational use must either pay compensation that is equivalent to the park area value or provide another park area of the same value and characteristics.

Regional and Local Plans, Policies, and Regulations

San Joaquin County General Plan

San Joaquin County adopted the San Joaquin County General Plan on December 2016. The General Plan provides a comprehensive framework to address the current issues in the County as well as the vision for the future and strategies to achieve such visions. The general plan includes the following pertinent goals and policies:

- **Goal LU-8**: Protect open space for its recreational, agricultural, safety, and environmental value and provide adequate parks and open space areas throughout the County.
- **Goal LU-8.1**: The County shall limit, to the extent feasible, the conversion of open space and agricultural lands to urban uses, and place a high priority on preserving open space lands for recreation, habitat protection and enhancement, flood hazard management, public safety, water resource protection, and overall community benefit.
- **Goal LU-8.3**: The County shall encourage the conservation and restoration of rivers, creeks, and sloughs as multi-functional open space corridors that complement adjoining development and connect city and County recreation facilities (e.g., parks).

City of Stockton General Plan

The following *Envision Stockton 2040 General Plan* policies and implementing actions are relevant to this proposed Project:

- **Policy LU-5.2**. Protect natural resource areas, fish and wildlife habitat, scenic areas, open space areas, agricultural lands, parks, and other cultural/historic resources from encroachment or destruction by incompatible development.
- **Policy LU-6.3**. Ensure that all neighborhoods have access to well-maintained public facilities and utilities that meet community service needs.

Consistency with Plans, Policies, and Regulations

The proposed Project would comply with all relevant federal, state, and local policies and regulations as it relates to recreation facilities. The proposed Project would ensure that all recreation regulations are followed, which includes compliance with the California Public Park Preservation Act, and all applicable goals and policies set forth by the County and City general plans.

3.14.3 METHODS FOR EVALUATING IMPACTS

This section defines the recreation RSA and describes the methods used to determine the impacts of proposed Project construction and operation on recreation facilities.

Definition of Resource Study Area

As defined in Section 3.0, RSAs are the geographic boundaries within which the environmental investigations specific to each resource topic were conducted. The RSA for impacts on recreation encompasses the areas directly and indirectly affected by construction and operation of the Project, which is defined as the permanent construction limits, proposed staging areas, and a 1,000-foot buffer.

Methods for Data Collection and Analysis

For the analysis, GIS data and aerial imagery were collected on recreation facilities within the recreation RSA. Potential impacts from construction and operation of the proposed Project on these resources were evaluated through the following methods:

- Aerial imagery from Google Earth and collection of GIS data from the City of Stockton to identify recreation facilities within a 1000-foot radius of the Project construction limits (that is, the RSA);
- GIS analysis to measure the distance of the recreational facilities from the Project construction limits and the proposed tracks;
- Analysis of the construction methods, rights-of-way, and staging areas to identify if there would be any access barriers to recreation facilities;
- Evaluation of temporary construction easement locations and construction activity that could impact the community use of recreational facilities; and
- Analysis of the requirements of all plans, policies, and regulations listed in the regulatory context noted above.

Method for Determining Significance under CEQA

The thresholds of significance for impacts were developed consistent with the CEQA Guidelines (Appendix G) to determine the significance of potential impacts in relation to recreation facilities that could result from implementation of the proposed Project. Accordingly, the following criteria were assessed:

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

3.14.4 AFFECTED ENVIRONMENT

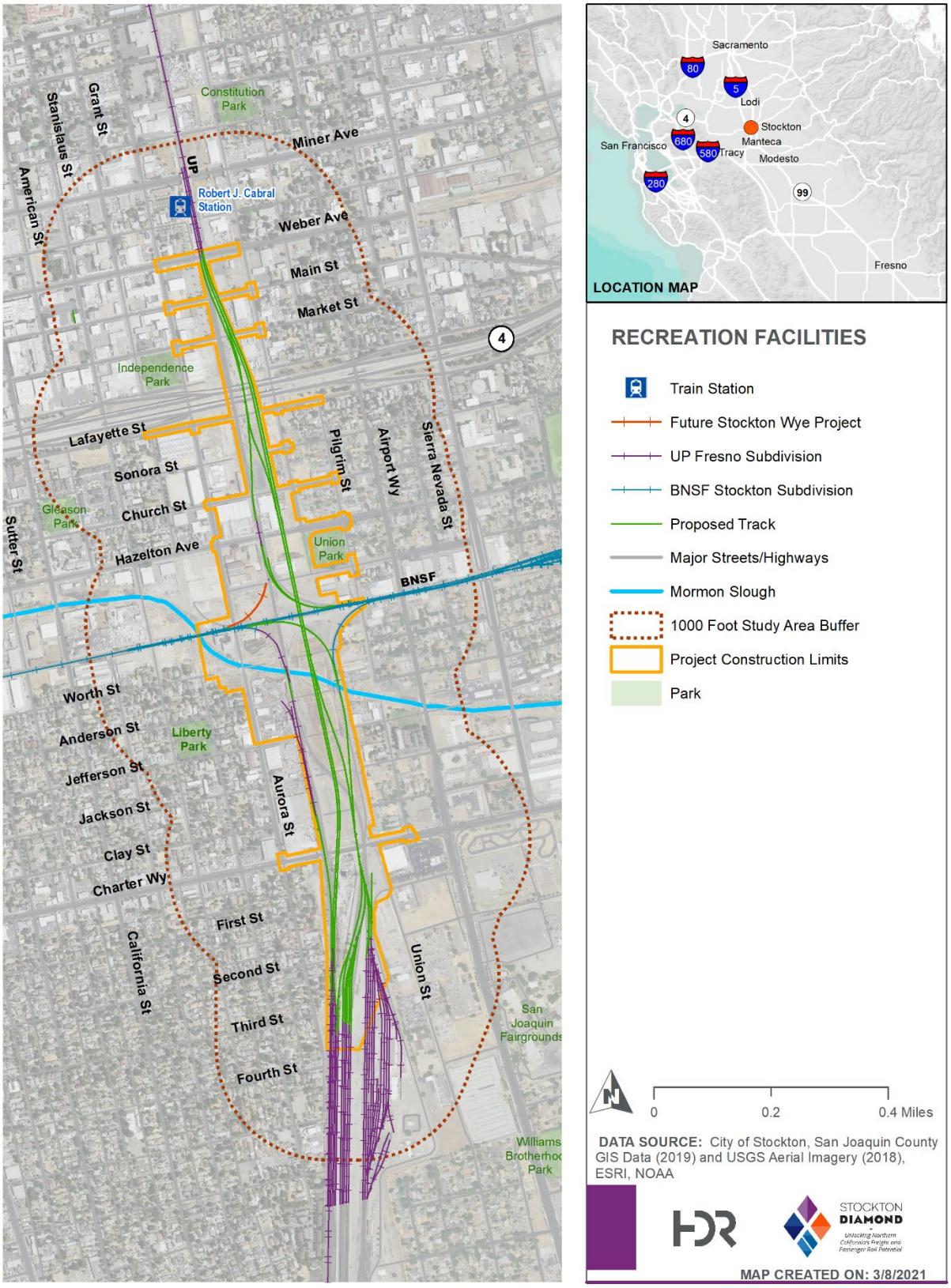
This section describes the affected environment related to parks, recreational facilities, and public facilities Figure 3.14-1 provides an overview of the location of parks, recreational facilities, and public facilities within the recreation RSA.

Recreational Facilities

The following are existing recreational facilities within the recreation RSA:

- **Independence Park**: Independence Park is located at East Market Street and wraps around South Grant Street, Washington Street and Aurora Street. The park consists of a grassy open space.
- **Union Park**: Union Park is located between East Hazelton Avenue, South Union Street, South Pilgrim Street, and East Scotts Avenue. The park consists of a grassy open space.

Figure 3.14-1: Recreation Facilities



- **Gleason Park**: Gleason Park is located on East Sonora Street and east of California Street. It is adjacent to Spanos Elementary School. The park consists of a grassy open space and playground area for young children.
- **Liberty Park**: Liberty Park is located between East Anderson Street, South Stanislaus Street, South Grant Street, and East Jefferson Street. The park consists of a grassy open space, playground for young children, basketball court, and small walking trail within the perimeter of the park.
- **San Joaquin County Fairgrounds**: The San Joaquin County Fairgrounds is located at 1658 South Airport Way. It provides a large area for events held for the community. These events include music concerts, carnivals, and food and local exhibits. More specific events include the annual San Joaquin County Fair, Delta Speedway, California Central Valley Archery, Open Air Market, Stockton Dirt Track, Go Cart Track, and Soccer for Kids

3.14.5 ENVIRONMENTAL ANALYSIS

This section describes potential environmental impacts on recreation facilities that could result from implementing the proposed Project.

CEQA Significance Findings

An environmental analysis of each threshold identified is provided below:

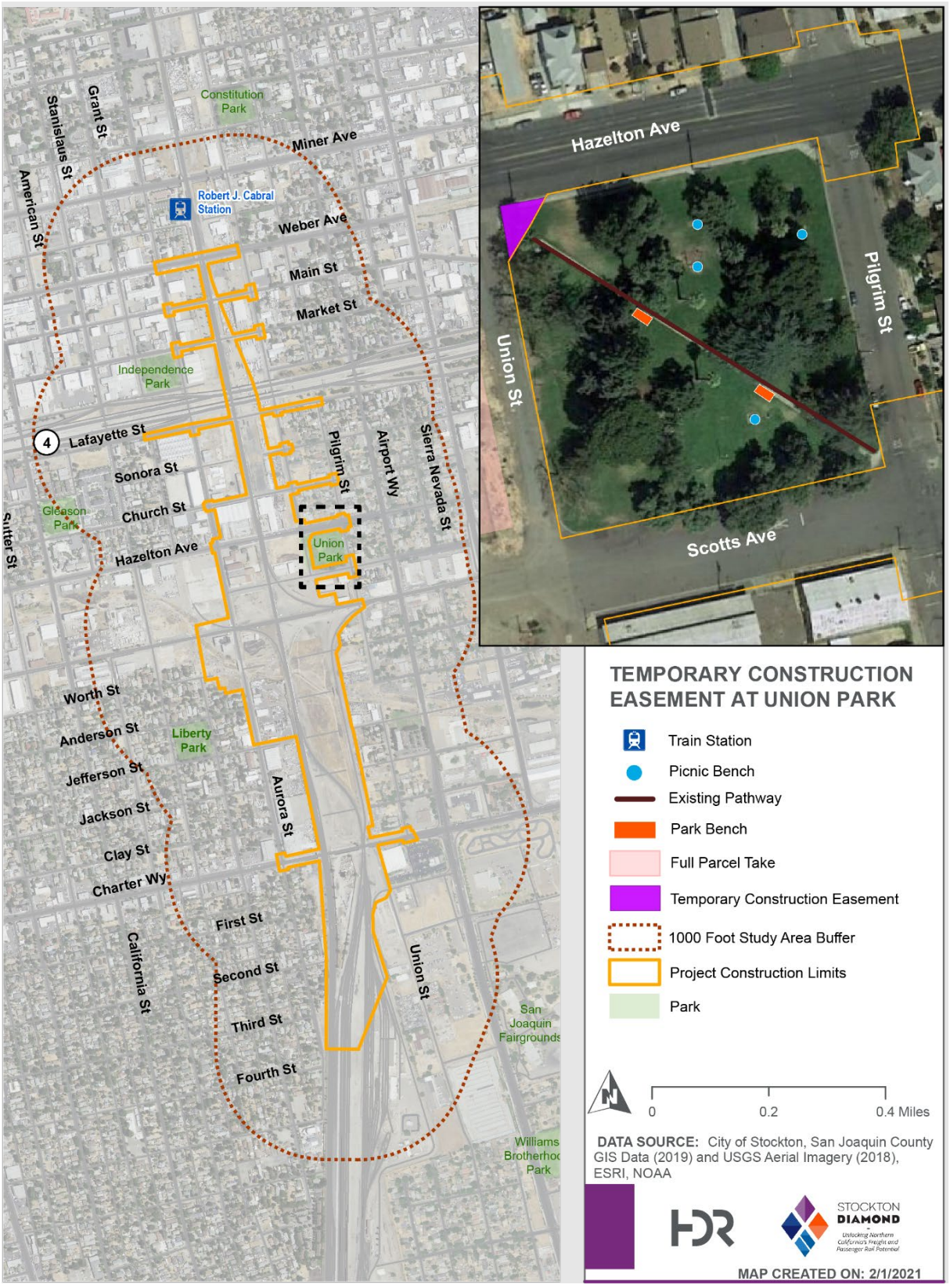
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Impact. The proposed Project improves passenger rail reliability by implementing infrastructure improvements to allow for better rail operations. These improvements would also improve safety and mobility in the local area and would not create greater demand for recreational opportunities. In addition, the proposed Project would not increase the use of the existing recreational facilities in the area or cause substantial or accelerate physical deterioration of these facilities. Therefore, no short-term or long-term impacts would occur as a result of the proposed Project.

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

No Impact. The proposed Project does not include recreational facilities, nor does it include any features that would require construction of new recreation facilities or expand existing recreational facilities. However, the proposed Project will require 0.03-acre (1,316-sqare-foot) of TCE in the northwest corner of Union Park, located in the southeast quadrant of the intersection between East Hazelton Avenue and South Union Street. This TCE, shown in Figure 3.14-2, would be required in order to construct the underpasses at East Hazelton Avenue and East Scotts Avenue.

Figure 3.14-2: Temporary Construction Easement at Union Park



This TCE, considered a short-term direct impact, would ~~be used for the storage of construction materials and~~ serve as construction access to East Hazelton Avenue during the construction of the proposed underpass. The TCE would not directly impact access to the existing facilities at Union Park in the short-term, as multiple access locations are available along the perimeter of the unfenced park. As shown in Figure 3.14-2, the required TCE would also not directly impact any of the features of the park that currently provide recreational opportunities.

Temporary indirect impacts to Union Park would occur over a 2 to 3-month period due to the full street closures of East Hazelton Avenue and East Scotts Avenue during proposed Project construction. These temporary street closures may indirectly impact local access to the Union Park. However, in order to maintain traffic flow and park access throughout proposed Project construction, closures on East Hazelton Avenue and East Scotts Avenue would not occur at the same time.

Similarly, access to Independence Park, located in the southwest quadrant of South Aurora Street and East Market Street, may be indirectly impacted by the temporary closure of South Market Street during construction. However, indirect short-term impacts related to access during construction would be reduced with the implementation of the proposed Project Construction Transportation Plan, that aims to minimize impacts of construction traffic on nearby roadways (Measure BMP TRA-2 in Section 3.15, *Transportation*) a Construction Management Plan (CMP) that aims to address maintenance and pedestrian access during the construction period (Measure BMP TRA-4 in Section 3.15, *Transportation*), a CMP for the maintenance of bicycle access during construction (Measure BMP TRA-5 in Section 3.15, *Transportation*), and a TMP which requires alternate access or detour plans be available early and continuously throughout the proposed Project construction as part of ongoing public outreach (Measure BMP TRA-7 in Section 3.15, *Transportation*).

Additionally, due to the proximity of several parks (Union Park, Independence Park, and Liberty Park), noise and dust generated during construction my cause indirect short-term impacts on park users. However, indirect short-term impacts related to noise and dust during construction would be reduced with the implementation of Measures BMP AQ-1 and BMP AQ-2 (in Sections 3.2, *Air Quality*), which address compliance with EPA's Tier 4 Exhaust Emissions Standards and a Fugitive Dust Control Plan, and Measures BMP NV-1 and BMP NV-2 (in Section 3.11, *Noise and Vibration)*, which require compliance with a Noise Control Plan and Vibration Control Plan, respectively .

Therefore, with the implementation of Measures BMP TRA-2, BMP TRA-4, BMP TRA-5, BMP TRA-7, BMP AQ-1, BMP AQ-2, BMP NV-1 and BMP NV-2, short-term impacts would be considered less than significant, and no mitigation is required.

After construction of the proposed Project is completed, the affected area of the park property would be returned to its prior condition, and no permanent modifications to Union Park's recreational features would occur. Therefore, long-term impacts on recreation as a result of the proposed Project would be considered less than significant, and no mitigation is required.

3.14.6 BEST MANAGEMENT PRACTICES AND/OR MITIGATION MEASURES

No specific BMP or mitigation measures are required for under recreation. Note that the Transportation, Air Quality, and Noise BMP Measures identified above would minimize potential short-term impacts to recreation as a result of the proposed Project.

3.15 Transportation

3.15.1 INTRODUCTION

This section describes the regulatory setting and affected environment for transportation and identifies potential temporary and permanent effects of the proposed Project during construction and operation. This section also addresses the proposed Project's consistency with applicable federal, state and local regulations, policies and goals.

3.15.2 REGULATORY SETTING

This section identifies the federal, state, and local laws, regulations, and orders that are relevant to the analysis of transportation in this EIR. It also states whether or not the proposed Project would be in compliance with the regulations described herein.

In accordance with Senate Bill 743, the California Natural Resources Agency has adopted changes to the CEQA Guidelines that "promote the reduction of GHG emissions, the development of multimodal transportation networks, and a diversity of land uses," as described under Section 21099(b)(1) of the Public Resources Code. With these changes, vehicle miles traveled (VMT) has been identified as the most appropriate metric for evaluating a project's transportation impact, and automobile delay—as measured by level of service (LOS) or similar metrics—generally no longer constitutes a significant environmental effect under CEQA (Governor's Office of Planning and Research 2018). Therefore, components of the regulatory setting referring to automobile delay (that is, level of service) are not applicable to the analysis of the proposed Project's transportation impacts and are not discussed further in this section.

Federal Plans, Policies, and Regulations

Federal law requires the State of California to prepare the Federal Statewide Transportation Improvement Program (FSTIP) document covering a period of at least 4 years. This program compiles all projects that have been programmed throughout the state using federal funds.

In accordance with the federal Passenger Rail Investment and Improvement Act of 2008, the State of California adopted the *2018 California State Rail Plan* in September 2018 (Caltrans 2018a). Federal law requires the State of California to update its California State Rail Plan every 5 years as a condition of eligibility for federal funding for rail programs.

Highways, Statewide Planning (23 USC Section 135)

Title 23 of the USC for Highways and Statewide Planning provides the general requirements for statewide planning to encourage and promote the safe and efficient management, operation, and development of the surface transportation system.

State Plans, Policies, and Regulations

At the statewide level, the proposed Project is included in the 2020 California Freight Mobility Plan, and the proposed Project design and right of way phases are programmed in the Interregional portion of the 2020 State Transportation Improvement program (STIP). At the local and regional level, the Project is included in the 2018 San Joaquin County RTP/SCS, as well as the current SJCOG 2019 Federal Transportation Improvement Program (FTIP). The Project is also included in the SJCOG 2021 FTIP, ~~which is scheduled for adoption~~ which was adopted at the February 25, 2021, SJCOG Board meeting.

California Transportation Plan 2040

The California Transportation Plan was published in 2016 and provides a long-range policy framework to meet the state's future mobility needs and reduce GHG emissions. The California Transportation Plan defines goals, performance-based policies, and strategies to achieve the state's vision for California's future statewide, integrated, multimodal transportation system. The plan envisions a sustainable system that improves mobility and enhances the quality of life.

State Rail Plan (Gov. Code, Section 14036)

This law requires Caltrans to produce a State Rail Plan that includes a passenger and freight rail component. The 2018 California State Rail Plan (Caltrans 2018a) was developed to meet this requirement. It establishes a statewide vision and objectives, sets priorities, and develops policies and implementation strategies to enhance passenger and freight rail service in the public interest. It also details a long-range investment program for California's passenger and freight infrastructure.

State Senate Bill 743

In 2013, SB 743 was codified in PRC Section 21099, which proposed a change in how transportation impacts are analyzed in transit priority areas to better align local environmental review with statewide objectives. These alignment considerations include reductions to GHG emissions, encouragement of infill mixed-use development in designated priority development areas, reductions of regional sprawl land development, and reductions in mobile source VMT.

In November 2017, the Governor's Office of Planning and Research released the final proposed update to the CEQA Guidelines consistent with SB 743 recommending VMT, both within and outside of transit priority areas, as the most appropriate metric of transportation impact. This metric aligns with local environmental review under CEQA and with California's long-term GHG emissions reduction goals for any project initiated after July 1, 2020.

California Streets and Highways Code (Section 1 et seq.)

California Streets and Highways Code Section 1 et seq. includes the provisions and standards for administration of the statewide streets and highways system. Designated state route and interstate highway facilities are under the jurisdiction of Caltrans, except where management of the facility has been delegated to local jurisdictions. Operations analysis of Caltrans facilities is conducted

according to the methodology set forth in the Guide for the Preparation of Traffic Impact Studies (Caltrans 2002). The Caltrans guide provides guidelines for determining project fair-share contributions (Caltrans 2002). Caltrans also uses the methods outlined in the Highway Capacity Manual (Transportation Research Board 2010) and has a target threshold of LOS C for intersections and highway facilities. Local Plans, Policies, and Regulations

Regional Transportation Plans (Gov. Code Section 65080)

The State of California requires each transportation planning agency to prepare and adopt an RTP directed at achieving a coordinated and balanced regional transportation system. Relevant objectives, policies, and goals from the adopted San Joaquin Council of Governments 2018 RTP/SCS (SJCOG 2018) are listed below.

SJCOG Regional Transportation Plan and Sustainable Communities Strategy

The 2018 RTP/SCS provides a "sustainability vision" through year 2042 that recognizes the significant impact the transportation network has on the region's public health, mobility, and economic vitality. As the region's comprehensive long-range transportation planning document, the Plan serves as a guide for achieving public policy decisions that will result in balanced investments for a wide range of multimodal transportation improvements. The plan includes the following pertinent goals and policies:

- Enhance the connection between land use and transportation choices through projects supporting energy and water efficiency (#2)
- Improve air quality by reducing transportation-related emissions (#3)
- Improve regional transportation system efficiency (#4)
- Improve freight access to key strategic economic centers (#16)
- Promote safe and efficient strategies to improve the movement of goods by water, rail, and truck (#17)
- Support transportation improvements that improve economic competitiveness, revitalize commercial corridors and strategic economic centers, and enhance travel and tourism opportunities (#18)

San Joaquin Regional Rail Commission Plans

The SJRRC ACEforward is a phased improvement plan proposed by the SJRRC to increase service reliability and frequency (two additional roundtrips in near-term and four additional roundtrips in long-term), enhance passenger facilities, reduce travel times along the existing ACE service corridor from San José to Stockton, and extend ACE service to Manteca, Modesto, Ceres, Turlock and Merced. While the Draft EIR for ACEforward was issued in 2017, the SJRRC rescinded the document to focus on the funded extensions to Sacramento and Ceres / Merced as part of the Valley Rail program.

SJRRC's ACEforward project is relevant to the proposed project because of its proposed improvements in Stockton and use of the UP Fresno line and Stockton Diamond. Additionally, Valley Rail implements two new daily round-trips for the Amtrak San Joaquins service to better connect San Joaquin Valley travelers with the Sacramento Area, and an extension of ACE between Sacramento and Ceres/Merced (see Figure 1.3-1). SJRRC issued a Final EIR for the ACE Extension Lathrop to Ceres/Merced (ACE Extension) project in July 2018. SJRRC issued a Final EIR for the Valley Rail Sacramento Extension project in October 2020.

In addition to the Valley Rail program, SJRRC and TVSJVRRA have established a Universal Infrastructure vision for the Altamont Corridor between Stockton and the San Francisco Bay Area. The Investment in "Universal Infrastructure" throughout the San Joaquin Valley and the San Francisco Bay Area would enable one-seat rides via the Altamont Corridor to San José; the Peninsula via a new Dumbarton Bridge; Oakland, and San Francisco via a new Transbay Crossing. Universal infrastructure would be compatible with high-speed rail and would enable a one-seat ride from the California High-Speed Rail initial operating segment at Merced. The plan includes the following pertinent goals and policies:

- Enhance intercity transit connectivity, maximize connections with other transit services, and add new stations
- Reduce traffic congestion, improve regional air quality, and reduce GHG emissions
- Promote local and regional land use and transportation sustainability goals
- Make improvements necessary to increase service between Stockton and San José to 6 daily round trips by as early as 2018, including the following:
    - Grade-separations at several high priority locations between Stockton and San José

San Joaquin County General Plan (2016)

San Joaquin County adopted the San Joaquin County General Plan in December 2016. The General Plan provides a comprehensive framework to address the current issues in the County, the vision for the future, and strategies to achieve such visions. The general plan includes the following pertinent goals and policies:

- **Goal TM-1:** To maintain a comprehensive and coordinated multimodal transportation system that enhances the mobility of people, improves the environment, and is safe, efficient, and cost effective.
- **Goal TM-2:** To improve County roadways to include pedestrian, bicycle, and transit facilities to better serve people who use these active transportation modes.
- **Goal TM-3:** To maintain a safe, efficient, and cost-effective roadway system for the movement of people and goods.
- **Goal TM-4:** To maintain and expand a safe, continuous, and convenient bicycle system and pedestrian network.

- **Goal TM-5:** To maintain a public transit system that meets the needs of all County residents while providing a convenient, reliable alternative to automobile travel.
- **Goal TM-6:** To maintain congestion management strategies to reduce single-occupant automobile use.
- **Goal TM-7:** To maintain an efficient transportation network to facilitate the movement of goods within and through the County.
- **Goal TM-8:** To ensure that the air transportation system accommodates the growth of air commerce and general aviation needs within the parameters of compatible surrounding uses.
- **Goal TM-9:** To use emerging transportation technologies and services to increase transportation system efficiency.
- **Goal ED-3.3:** Ensure Adequate Transportation Improvements. The County shall strive to provide an adequate circulation system to support job growth and economic development, connecting critical goods movement facilities and minimizing conflict with other transportation needs.
- **Policy CH-2.2:** Prioritize street maintenance and sidewalk, park, and other infrastructure improvements in areas of the city that historically have been comparatively underserved by public facilities, including the implementation of complete streets where needed, especially in conjunction with infrastructure maintenance and improvement projects.

City of Stockton General Plan

The City of Stockton adopted the Envision Stockton 2040 General Plan on December 4, 2018. The General Plan provides a tool for the city to plan for the future. It contains goals, policies and actions that can boost the economy and improve community facilities and well-being. The general plan includes the following pertinent goals and policies:

- **Policy TR-1.1:** Ensure that roadways safely and efficiently accommodate all modes and users, including private, commercial, and transit vehicles, as well as bicycles and pedestrians and vehicles for disabled travelers.
- **Policy TR-1.2:** Enhance the use and convenience of rail service for both passenger and freight movement.
- **Policy TR-2.1:** Develop safe and interconnected bicycle and pedestrian facilities, including along “complete” streets that target multiple travel modes.
- **Policy TR-2.2:** Connect housing and employment development in areas with good transit access through open and inclusive processes where appropriate.
- **Policy TR-2.3:** Utilize natural features and routes with lower traffic volumes and speeds to encourage residents to walk and wheel more frequently.
- **Policy TR-3.1:** Avoid widening existing roadways in an effort to preclude inducement of additional vehicle traffic.

- **Policy TR-3.2:** Require new development and transportation projects to reduce travel demand and greenhouse gas emissions, support electric vehicle charging, and accommodate multi-passenger autonomous vehicle travel as much as feasible.
- **Policy TR-4.1:** Utilize LOS information to aid understanding of potential major increases to vehicle delay at key signalized intersections.
- **Policy TR-4.2:** Replace LOS with: (1) vehicle-miles traveled (VMT) per capita; and (2) impacts to non-automobile travel modes, as the metrics to analyze impacts related to land use proposals under the California Environmental Quality Act, in accordance with SB 743.
- **Policy TR-4.3:** Use the threshold recommended by the California Office of Planning and Research for determining whether VMT impacts associated with land uses are considered significant under State environmental analysis requirements.

City of Stockton Bicycle Master Plan

The City of Stockton adopted the Bicycle Master Plan in December 2017. The goals, vision, and implementation strategy of the Plan are informed by the needs of the community and exemplified in the plan's vision statement. This update to the City of Stockton Bicycle Master Plan is "intended to not only envision a future for Stockton where bicycling is a viable option for people of all ages and abilities, but to also serve as an implementation roadmap for elected officials and City staff to achieve that goal". The general plan includes the following pertinent goals and policies:

- **Goal One:** Through the implementation of priority Backbone Network projects, the City shall create and expand an interconnected, low-stress bikeway network and close gaps in the existing system.
    - **Action 1-1A:** Implement improvements identified in the BMP beginning with the projects identified as priority projects.
    - **Action 1-1B:** Provide bikeways near key destinations, services, schools, or other major attractions that will allow residents of Stockton to be where they would otherwise access with an automobile. All future projects identified should meet bicycle user desire lines and connect people to where they want to be.
- **Goal Two:** Make Stockton a bike-friendly city with multi-modal complete streets design and secure, convenient bicycle parking, while reducing the number of severe injuries and fatalities using Vision Zero principles.
- **Goal Three:** Accommodate all trip types and cyclist needs with family friendly facilities, connections to critical services, connections to transit, effective branding, and advances in technology.

Greater Downtown Active Transportation Plan

The Greater Downtown Active Transportation Plan builds on the bicycle network in the 2017 Bicycle Master Plan. Once complete, the City will be well-positioned to seek funds to implement recommended bicycle and pedestrian projects to:

- Enhance safety for pedestrians, cyclists, and transit riders with improved access to transit, schools, work, and regional trails
- Create connections to and from other areas in the City
- Support the revitalization of Stockton's core

Consistency with Plans, Policies, and Regulations

The proposed Project would comply with all relevant federal, state, and local policies and regulations as it relates to transportation. The proposed Project would ensure that all transportation regulations are followed, which includes compliance with applicable federal and state transportation plans and all applicable goals and policies set forth by the County and City general plans.

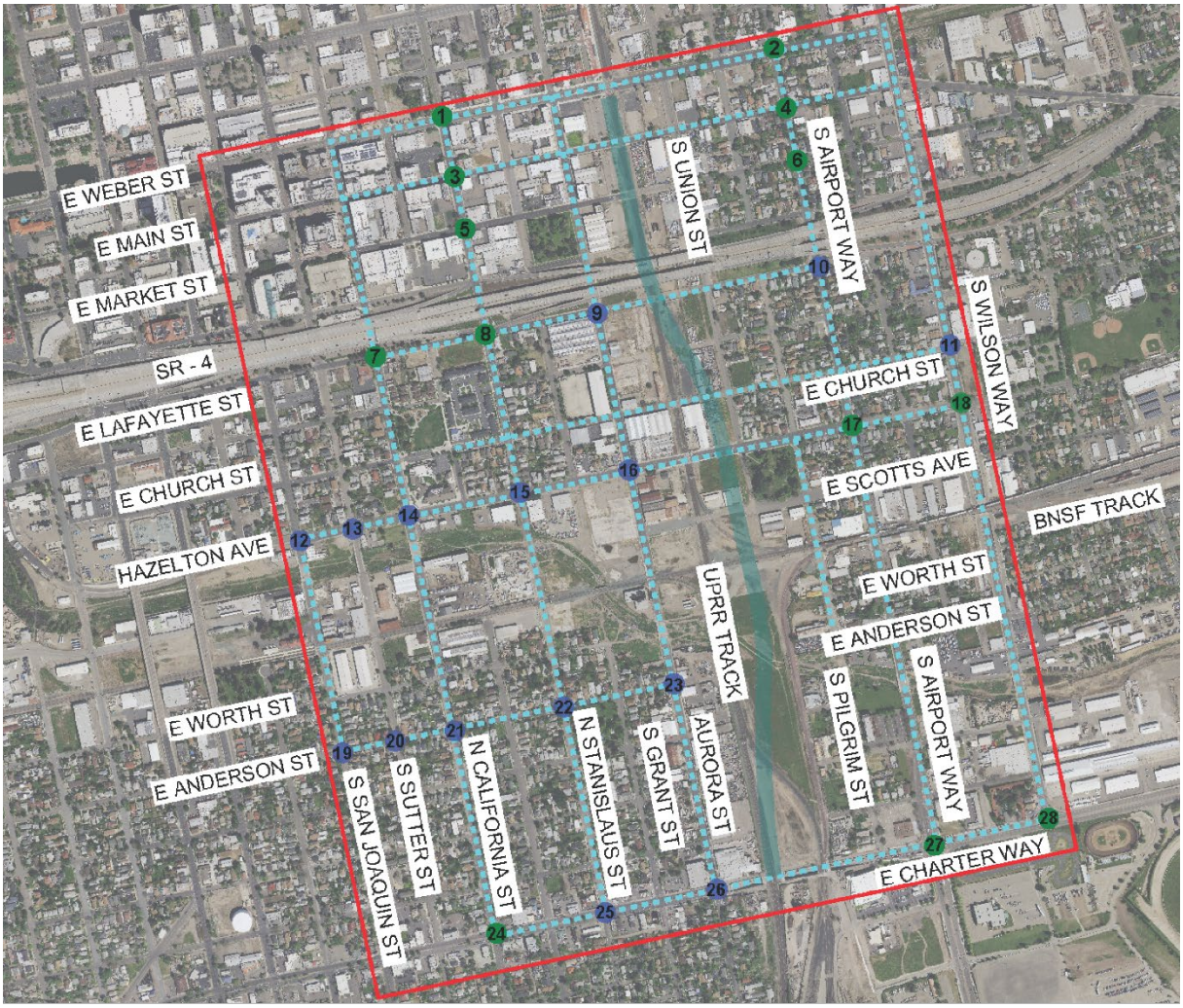
3.15.3 METHODS FOR EVALUATING IMPACTS

This section defines the transportation RSA and describes methods used to analyze the potential for the proposed Project to result in impacts to transportation facilities or mobility within the transportation RSA during construction and operations. As summarized in Section 3.1, *Introduction*, other resource sections in this EIR also provide information related to transportation.

Definition of the Resource Study Area

As defined in Section 3.1, RSAs are the geographic boundaries within which analysts conducted the environmental investigations specific to each resource topic. The RSA for impacts on transportation encompasses the areas directly or indirectly affected by Project construction and operations. These areas include the footprint for the proposed Project and the transportation network facilities. Specifically, the transportation RSA (also referred to as Traffic Study Area) for the proposed Project includes the permanent construction limits, proposed staging areas, and the area bounding Weber Avenue to the North, South Wilson Way to the east, San Joaquin Street to the west and Charter Way to the south as shown in Figure 3.15-1. This area was included in the Traffic Study Area because the roadways located within this area would be reasonably expected to experience potential impacts during construction and operation.

Figure 3.15-1: Transportation Resource Study Area and Location of Intersections



TRAFFIC STUDY AREA AND LOCATION OF INTERSECTIONS

DATA SOURCE: Google Earth, 2020

XX Study Intersection (unsignalized)

XX Study Intersection (signalized)

Study Area Roadways

Proposed Tracks

Traffic Study Area

0 0.125 0.25 Miles

HDR

STOCKTON DIAMOND - Unlocking Northern California's Freight and Passenger Rail Potential

CREATED ON: 01/23/2021

Methods for Data Collection and Analysis

Transportation data were collected from both available and new sources to develop the existing traffic conditions for turning movements and volumes that encompass both the intersections and roadways in the Traffic Study Area. These data were collected, combined, and formatted to represent the existing 2019 average weekday traffic conditions, which is being used as the base year for the traffic analysis for existing conditions and future conditions. Existing traffic conditions were defined to represent average weekday traffic conditions for 2019 based on the following factors:

- While detailed analysis for the proposed Project started in early 2020, the circumstances and impacts of COVID-19, in particular the reduction of typical weekday travel throughout the Traffic Study Area, led to the development of existing conditions reflecting an earlier year representing typical traffic demand. A robust set of 2019 traffic data (see sources below) were available to support the development of 2019 existing conditions as the base year.
- Traditionally, observed traffic counting is scheduled for the Fall and Spring to avoid the heavy vacation (summer) and holiday (winter) periods. The Fall and Spring are collected to represent more typical, normal commute and school travel. Due to COVID-19, 2020 observed data were not collected for the Traffic Study Area intersections and roadways primarily because 2020 data, if collected, would not be representative of "normal" traffic conditions. It was determined that 2019 traffic data reflected a more reasonable approximation of average weekday traffic conditions in the Traffic Study Area.

Available roadway volumes and intersection turning movements, multimodal (pedestrian, bicycle, bus, truck) movements, roadway and intersection geometry, intersection signal timings and controls, and multimodal infrastructure (bus routes, bicycle facilities), and accident data were collected from the following sources:

- City of Stockton traffic volume maps available online from the City's website
- City of Stockton intersection turning movement, geometric, and signal timing plans
- U.S. Department of Transportation Road-Rail Crossing Inventory roadway volumes
- Envision Stockton, 2040 General Plan Update and Utility Master Plan Supplements Draft EIR, June 2018, Transportation Section traffic volumes, forecasts, planned infrastructure, and multimodal (roadway, pedestrian, bicycle, transit, freight) characteristics
- SJCOG Three-County Model developed as part of the San Joaquin Valley Model Improvement Plan, Phase 2
- Caltrans Traffic Volume summaries (online) by multiple years (2019 and prior) representing on- and off-ramp Average Annual Daily Traffic and Peak Hour Volumes for state-owned roadways affecting the RSA
- San Joaquin Regional Transit District (RTD) transit routes and schedules
- City of Stockton Bike Master Plan (City of Stockton 2017b)

- UC Berkeley Transportation Injury Mapping System, 2017-2019 crash data

In order to develop a more complete profile of existing turning movements for the transportation RSA intersections, Streetlight[1] data were purchased to provide turning movements for each of the 28 intersections in the transportation RSA. Due to COVID-19 circumstances (as described above), Streetlight data is being used throughout the industry to estimate roadway traffic volumes and intersection turning movements in-place of new, observed turning movement counts traditionally used to support this type of analysis. This data provided a meaningful set of accurate turning movement volumes to supplement the other available information collected for the study. This supplementary (new) data included morning and afternoon peak hour turning movements for each intersection representing average weekday traffic conditions for 2019 including:

- March 2019 to April 2019 and September 2019 to October 2019
- Tuesdays through Thursdays
- 12 AM to 12 PM

Analysis Methods

This section presents the analysis methods applied to the transportation RSA for roadway performance, pedestrians and bicycle, transit route coverage, Freight, Safety and crash inventories.

INTERSECTION LEVEL OF SERVICE

While LOS is no longer used in the evaluation of transportation impacts under CEQA, Policy TR-4.1 of the Envision Stockton General Plan (2040) calls for using LOS information to aid in understanding the potential major increases to vehicle delay at key signalized intersections. Accordingly, an LOS analysis was conducted for the proposed Project.

Accepted, state-of-the practice traffic analysis as noted below was used to assess the morning (AM) and afternoon (PM) peak hour intersection operations and levels of service. The 2019 existing traffic profile, in addition to the detailed intersection geometry and traffic signal timing and phasing, and unsignalized intersection geometry and controls, were used as primary inputs in this analysis. The intersection operational analysis procedure outlined in the 2010 Highway Capacity Manual was implemented using the Synchro 10 traffic analysis software.

This commonly accepted methodology and software is applied to “grade” the intersection operations with LOS A through LOS F, characterized by the average stopped delay time per vehicle. This technique models volumes of vehicles moving through an intersection compared to the capacity of the intersection, which is adjusted accordingly given varying lane widths, on-street parking availability, pedestrian movements, traffic composition, and shared lane movements at any given intersection. Table 3.15-1 presents the LOS definitions and criteria used for this analysis. ~~The City of Stockton considers an intersection LOS E or better acceptable (Envision Stockton, 2040 General Plan Update and Utility Master Plan Supplements~~

[1] StreetLight is a company that provides location-based Global Positioning System (GPS) data from mobile devices to identify origin/destination patterns and travel times, among other transportation indicators.

~~Draft EIR).~~ The City of Stockton considers an intersection LOS D or better acceptable. However, the City's current General Plan designates the standard as LOS E for intersections in the Downtown area (bounded by Harding Way, the Union Pacific railroad tracks, Dr. Martin Luther King Jr. Boulevard, I-5, and Pershing Avenue). Most of the study intersections are within the Downtown area and therefore the acceptable LOS is E. The study intersections along South Airport Way and along South Wilson Way are considered outside of the Downtown area with acceptable LOS D.

Table 3.15-1: Definitions for Signalized Intersection LOS

Average Stopped Delay Per Vehicle (seconds)	LOS Descriptions and Typical Characteristics
<10.0	LOS A: the volume-to-capacity ratio is low and either progression is exceptionally favorable, or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.
10.1–20.0	LOS B: the volume-to-capacity ratio is low and either progression is highly favorable, or the cycle length is short. More vehicles stop than with LOS A.
20.1–35.0	LOS C: progression is favorable, or the cycle length is moderate. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is substantial, although many vehicles still pass through the intersection without stopping.
35.1–55.0	LOS D: the volume-to-capacity ratio is high and either progression is ineffective, or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable
55.1–80.0	LOS E: the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.
>80.0	LOS F: the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

Source: Highway Capacity Manual (2010)

ROADWAY PERFORMANCE

Roadway segments were evaluated using a volume-to-capacity (v/c) ratio to measure performance. A v/c analysis is a traditional measure used to assess roadway operations. If the v/c ratio is greater than 1.0, the roadway is over capacity and likely experiences delays. Since speed is difficult to predict for future conditions for freeway and highway segments, the v/c was used to analyze all roadway segments for both the AM and PM peak hours.

The City of Stockton continues to use LOS to evaluate the operating conditions of select congested roadway segments and intersections within the city. LOS is a description of traffic flow based on factors such as speed, travel time, delay, and freedom to maneuver.

Table 3.15-2: Definitions for Roadway Level of Service

LOS Level	LOS Description
LOS A	Free Flow or Insignificant Delays: Operations with very low delay. Most vehicles do not stop at all.
LOS B	Stable Operation or Minimal Delays: An occasional approach phase is fully utilized. Some drivers feel restricted.
LOS C	Stable Operation or Acceptable Delays: Drivers begin having to wait through more than one red signal. Most drivers feel somewhat restricted.
LOS D	Approaching Unstable or Tolerable Delays: Drivers may have to wait through more than one red signal. Queues may develop, but dissipate rapidly, without excessive delays.
LOS E	Unstable Operation or Significant Delays: Vehicles may wait through several signal cycles. Long queues form upstream from intersection.
LOS F	Forced Flow or Excessive Delays: Represents jammed conditions. Many cycle failures. Queues may block upstream intersections.

The City of Stockton strives to maintain LOS D or better for daily roadway segment operations; however, in Downtown and other areas, LOS E is acceptable. Exceptions to this standard are permissible to support other goals, such as encouraging safe travel by other modes of transportation than a car.

Within the Traffic Study Area, SR 4 and South Airport Way are considered Regional Congestion Management Program (RCMP) facilities by SJCOG. The LOS standard established for RCMP facilities in the Downtown area is LOS E, with the exception of the LOS F standard for SR 4 segments located in the transportation RSA.

PEDESTRIANS AND BICYCLE INVENTORY

Pedestrian movements were identified from limited available data to provide a general inventory of pedestrian movements in the transportation RSA. Availability of pedestrian crossings for the at-grade roadway crossings with both railroads (UP and BNSF) were identified in the transportation RSA. The transportation RSA does not currently include any of the City of Stockton's Class 1 – Off-Road Bike Trail, Class 2 – On-Road Bike Lane, Class 3 – Bike Route – Mixed Traffic, and/or Class 4 – Separated Bikeway designations documented in the Envision Stockton, 2040 General Plan Update and Utility Master Plan Supplements Draft EIR, June 2018 and City of Stockton Bike Master Plan, 2017. Proposed projects that have secured Measure K funding[2] were included in the analysis.

[2] Measure K is a local half-cent sales tax for transportation improvements. The program has financed numerous highway expansions, pedestrian-friendly projects, bike paths, and local road improvements throughout San Joaquin County and has generated millions in new revenues for rail and public transit networks. More information on Measure K is available at: www.sjcog.org

TRANSIT ROUTE COVERAGE INVENTORY

An inventory of the San Joaquin RTD transit routes and schedules that currently provide access to the transportation RSA was prepared, including designated Express Routes, Hopper Routes, and Local Routes.

FREIGHT INVENTORY

An inventory of the existing truck routes and intermodal (truck and rail) facilities was documented for City Truck Routes in the Envision Stockton, 2040 General Plan Update and Utility Master Plan Supplemental Draft EIR, June 2018.

SAFETY/CRASH INVENTORY

Crash data from 2017 to 2019 were compiled from UC Berkeley's Transportation Injury Mapping System. This data encompasses detailed crash (all modes) history by intersection and roadway locations in the Traffic Study Area categorized by fatality, severe injury, other vehicle injury, and complaint of pain injury.

Methods for Determining Significance under CEQA

The thresholds of significance for impacts were developed consistent with CEQA Guidelines to determine the significance of potential impacts in relation to transportation that could result from implementation of the proposed Project. The transportation analysis is based on CEQA Guidelines Appendix G, Transportation criteria. Accordingly, the following criteria were assessed:

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

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

c) Would the project substantially increase hazards due to a geometric design feature (for example, sharp curves or dangerous intersections) or incompatible uses (for example, farm equipment)?

d) Would the project result in inadequate emergency access?

VMT Thresholds of Significance under CEQA

Section 15064.3, Determining the Significance of Transportation Impacts, was added to the CEQA Guidelines in 2018 in response to SB 743. Section 15064.3 states, in part, "Generally, vehicle miles traveled is the most appropriate measure of transportation impacts… 'vehicle miles traveled' refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided in subdivision (b)(2) below (regarding roadway capacity), *a project's effect on automobile delay shall not constitute a significant environmental impact*" (emphasis added). Subdivision (b)(2), Criteria for Analyzing Transportation Impacts, Transportation Projects, states "*Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a*

less than significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements" (emphasis added). The proposed Project is not a roadway capacity project, so in accordance with 15064.3 subdivision (b), VMT is used as the metric for CEQA thresholds.

Because the City of Stockton continues to use LOS to evaluate the operating conditions of selected congested roadway segments and interchanges, an LOS analysis was also prepared for the proposed Project but was not used to determine the significance of transportation impacts under CEQA.

3.15.4 AFFECTED ENVIRONMENT

Surrounding Area

Regional Access and Local Access

Regional access to and from the transportation RSA is provided primarily by SR 4, the freeway that traverses east-west through the northern portion of the RSA from I-5 to the west and SR 99 to the east. Roadways by functional classification in the Traffic Study Area are shown in Figure 3.15-2 and include:

- **Arterials** with north to south movements include California Street, South Airport Way, and South Wilson Way, and arterials with east to west movements include East Main Street, East Market Street, East Hazelton Avenue (between South Stanislaus Street and South Wilson Way), and East Charter Way.
- **Collectors** with north to south movements include South San Joaquin Street and South Stanislaus Street (between East Main Street and East Hazelton Avenue). East to west collectors include East Weber Ave, East Lafayette Street (between South Stanislaus Street and South Airport Way), and East Hazelton Avenue (between South San Joaquin Street and South Stanislaus Street).
- **Local Roads** comprise the remainder of the Traffic Study Area roadways. Local roads with north to south movements include South Sutter Street, South American Street, South Stanislaus Street (between East Hazelton Ave and East Charter Way), South Grant Street, Aurora Street, South Union Street, and South Pilgrim Street. Local roads with east to west movements include East Lafayette Street (between South San Joaquin Street and South Stanislaus Street), East Church Street, East Scotts Avenue, East Worth Street, East Anderson Street, East Jefferson Street, East Jackson Street, and East Clay Street.

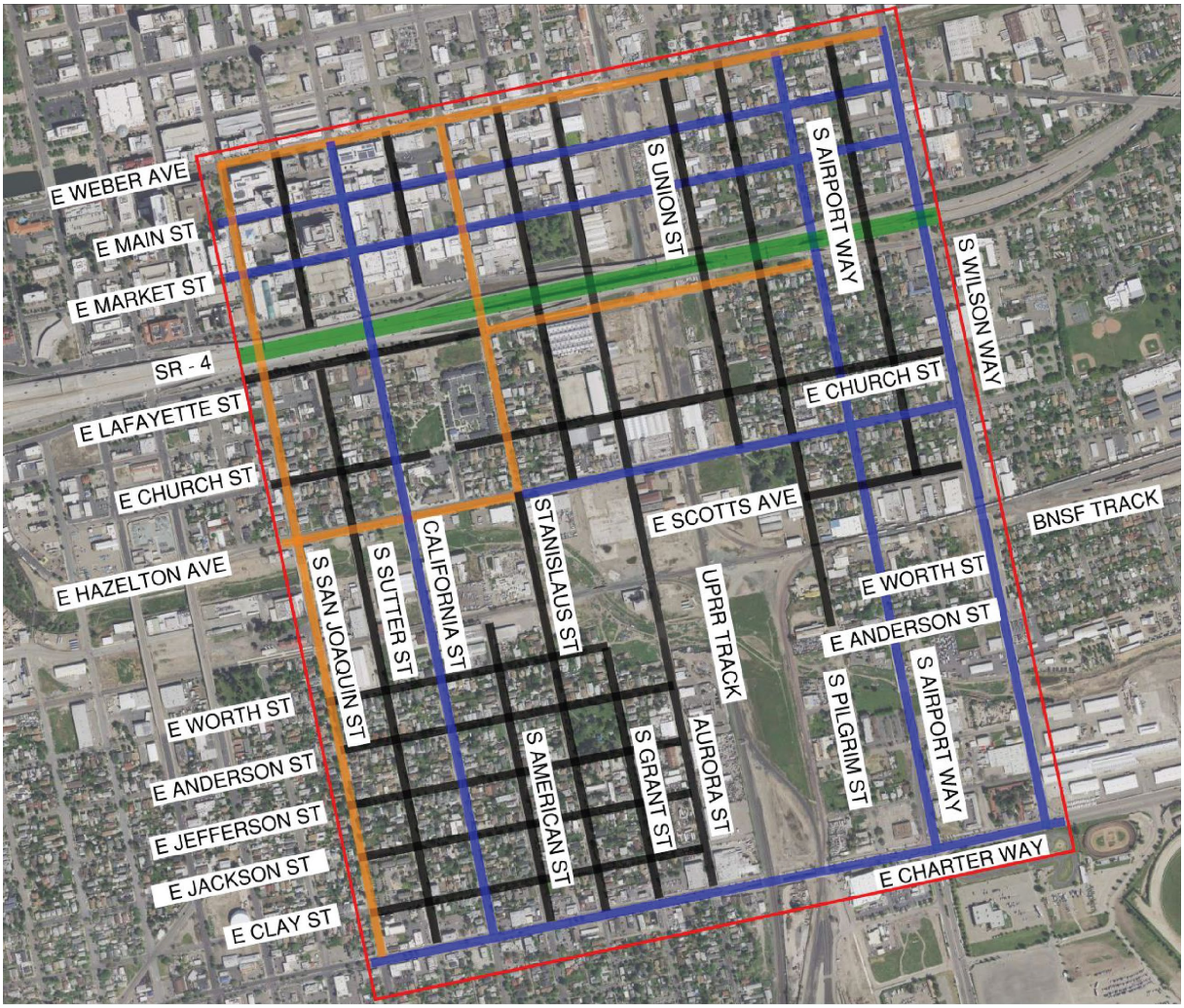
Existing Traffic Conditions

This section presents the Existing Year (2019) traffic conditions in the transportation RSA. Traffic, pedestrian, bicycle, transit, and truck conditions were evaluated to provide a multimodal assessment of the transportation system consistent with the approach used by the City of Stockton. The Traffic Report prepared for the proposed Project is included in Appendix E, *Traffic Report*.

The Traffic Study Area shown in Figure 3.15-1 includes the intersections, roadways, and multimodal transportation systems being analyzed for existing and future conditions. The Traffic Study Area was selected, in part, to include the full range of potential grade separation alignment concepts recently developed for the proposed Project. The intersections and roadways identified in the transportation RSA provide the foundation for the comprehensive transportation impact analysis for Existing Year (2019), Future Year (2045) No Project, and Future Year (2045) proposed Project conditions.

The transportation RSA includes a total of 28 intersection, 13 of which are signalized and 15 are unsignalized. Roadways analyzed for existing conditions are represented in the intersections shown in the Traffic Study Area for both north-south and east-west oriented roadways in the transportation RSA.

Figure 3.15-2: Roadways by Functional Classification in the Traffic Study Area



ROADWAYS BY FUNCTIONAL CLASSIFICATION IN THE TRAFFIC STUDY AREA

DATA SOURCE: Google Earth, 2020

- Traffic Study Area
- Interstates and Highways
- Arterials
- Collectors
- Local Roads

0 0.125 0.25 Miles

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Existing Intersection Level of Service

Existing LOS analysis for each of the 28 RSA intersections was completed for both morning (AM) and afternoon peak (PM) hours. Table 3.15-3 summarizes Existing Year (2019) AM and PM peak hour LOS and average delay (in seconds) at each intersection.

Table 3.15-3: Existing Year (2019) AM and PM Peak Hour Intersection Level of Service and Delay

#	Intersection	Intersection Type	Delay AM Peak Hour (seconds)	LOS AM Peak Hour	Delay PM Peak Hour (seconds)	LOS PM Peak Hour
1	North Stanislaus St and East Weber Avenue	Signalized	15.8	B	16.9	B
2	South Airport Way and East Weber Avenue	Signalized	11.8	B	14.5	B
3	North Stanislaus St and East Main Street	Signalized	9.2	A	8.8	A
4	South Airport Way and Main Street	Signalized	9.6	A	7.8	A
5	North Stanislaus Street and East Market Street	Signalized	11.8	B	8.3	A
6	South Airport Way and East Market Street	Signalized	9.2	A	11.2	B
7	East Lafayette Street and North California Street	Signalized	16.1	B	18.3	B
8	East Lafayette Street and North Stanislaus Street	Signalized	192.2	F	87.8	F
9	East Lafayette Street and South Aurora Street	All-Way Stop Control	11.8	B	15.6	B

#	Intersection	Intersection Type	Delay AM Peak Hour (seconds)	LOS AM Peak Hour	Delay PM Peak Hour (seconds)	LOS PM Peak Hour
10	East Lafayette Street and South Airport Way	Side Street Stop Control	6.6	A	117.6	F
11	South Wilson Way and East Church Street	Side Street Stop Control	1.6	A	2	A
12	East Hazelton Avenue and South San Joaquin Street	All-Way Stop Control	8.3	A	8.9	A
13	East Hazelton Avenue and South Sutter Street	Side Street Stop Control	4.2	A	4.5	A
14	East Hazelton Avenue and North California Street	All-Way Stop Control	8.5	A	9.3	A
15	East Hazelton Avenue and North Stanislaus Street	Side Street Stop Control	9.8	A	62.6	E
16	East Hazelton Avenue and South Aurora Street	All-Way Stop Control	8.7	A	9.7	A
17	East Hazelton Avenue and South Airport Way	Signalized	8	A	9.8	A
18	East Hazelton Avenue and South Wilson Way	Signalized	14.3	B	16	B
19	East Anderson Street and South San Joaquin Street	All-Way Stop Control	7.6	A	7.9	A
20	East Anderson Street and South Sutter Street	All-Way Stop Control	7.5	A	7.6	A

#	Intersection	Intersection Type	Delay AM Peak Hour (seconds)	LOS AM Peak Hour	Delay PM Peak Hour (seconds)	LOS PM Peak Hour
21	East Anderson Street and North California Street	Side Street Stop Control	3.8	A	3.3	A
22	East Anderson Street and North Stanislaus Street	Side Street Stop Control	0.9	A	1.9	A
23	East Anderson Street and Aurora Street	Side Street Stop Control	0.4	A	1.5	A
24	East Charter Way and North California Street	Signalized	12.7	B	18.4	B
25	East Charter Way and North Stanislaus Street	Side Street Stop Control	6.5	A	95.5	F
26	East Charter Way and Aurora Street	Side Street Stop Control	1	A	0.7	A
27	East Charter Way and South Airport Way	Signalized	21.4	C	23.3	C
28	East Charter Way and South Wilson Way	Signalized	21.9	C	24.2	C

The Existing Year (2019) AM peak hour analysis shows that the majority of the intersections currently operate at LOS C or better except for Intersection #8, East Lafayette Street and South Stanislaus Street, which operates at LOS F.

Similarly, in the 2019 PM peak hour, most of the intersections also operate at LOS C or better except for the following four intersections: #8, East Lafayette Street and South Stanislaus Street; intersection #10, East Lafayette Street and South Airport Way; Intersection #25, East Charter Way and South Stanislaus Street (all operating at LOS F); and Intersection #15, East Hazelton Avenue and South Stanislaus Street (operating at LOS E).

In the AM peak hour, the following intersection operates below the City of Stockton's acceptable level of service standard (that is, LOS E):

- Intersection #8, East Lafayette Street and South Stanislaus Street operates at LOS F due to delays caused by high volumes moving from the SR 4 off-ramp to East Lafayette Street.

In the PM peak hour, the following intersections operate below the City of Stockton's acceptable level of service standard (that is, LOS E):

- Intersection #8, East Lafayette Street and South Stanislaus Street operates at a LOS F due to high volumes and delays to vehicles moving from East Lafayette Street to the SR 4 on-ramp.
- Intersection #10, East Lafayette Street and South Airport Way operates at LOS F due to delays caused by East Lafayette Street eastbound left-turn vehicles conflicting with South Airport Way northbound/southbound traffic volumes.
- Intersection #25, East Charter Way and South Stanislaus Street operates at LOS F due to delays caused by the South Stanislaus Street northbound shared through and left-turn vehicles conflicting with East Charter Way eastbound/westbound traffic volumes.

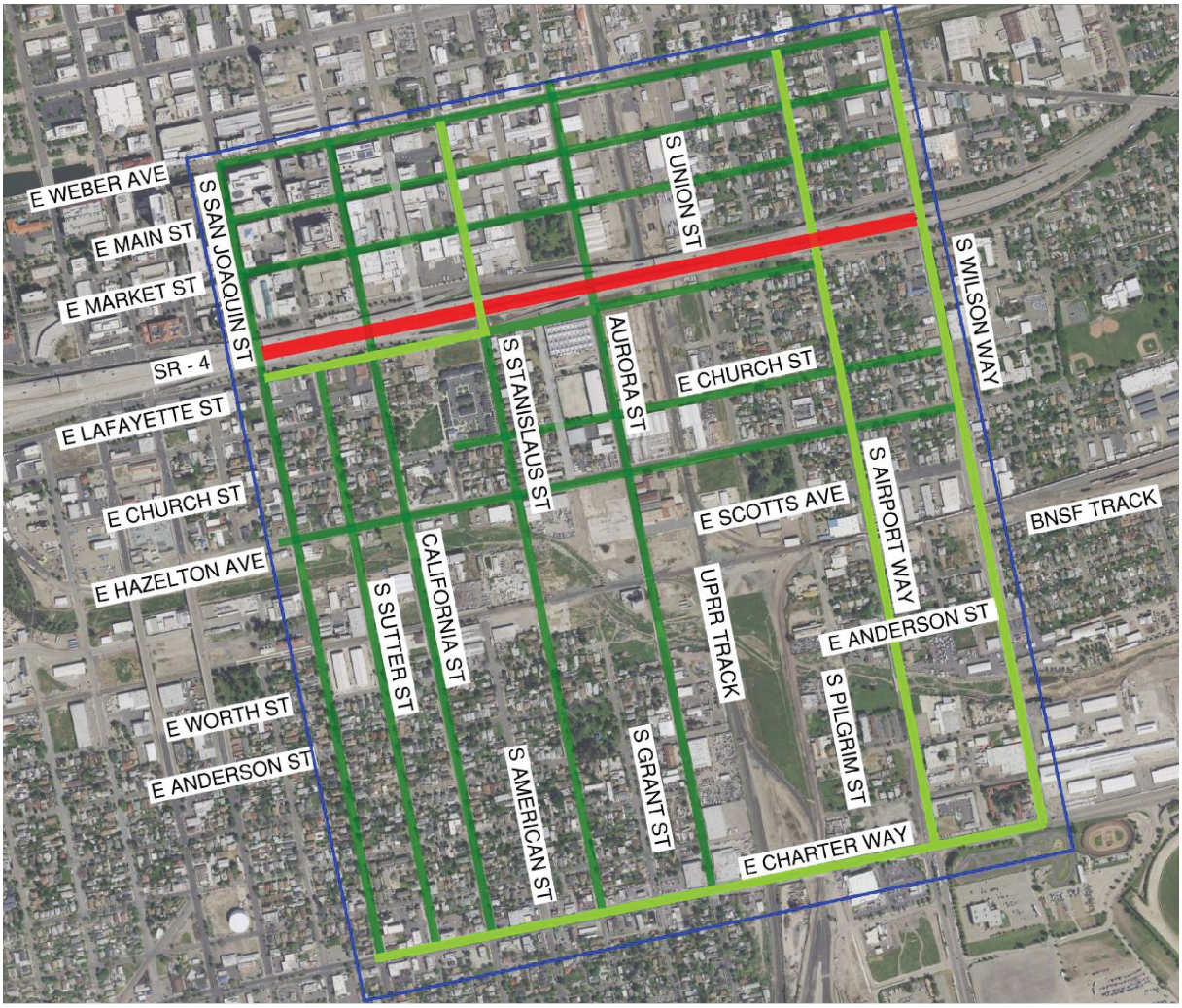
Roadway Segments

The roadway segments for both AM and PM peak hours in the transportation RSA were evaluated using vehicle/capacity (v/c) ratios to measure performance. The following parameters and methods from the Highway Capacity Manual (HCM) 2010 were used to analyze roadway v/c ratios for local roads, arterials, collectors, and freeways:

- 1200 Vehicles/hour/lane capacity on Local Roadways
- 1,780 Vehicles/hour/lane capacity on Arterials and Collectors
- 2,400 Vehicles/hour/lane capacity on Freeways (SR 4 Crosstown Freeway)

With the exception of SR 4 (Crosstown Freeway), all of the roadway levels of service in the transportation RSA perform at LOS D or better as established in the RCMP. The resulting v/c ratios for roadways in the 2019 AM peak hour are shown in Figure 3.15-3 and summarized in Table 3.15-4.

Figure 3.15-3: Existing Year (2019) Conditions V/C Ratio AM Peak



EXISTING YEAR (2019) CONDITIONS V/C RATIO AM PEAK

DATA SOURCE: Google Earth, 2020

- Traffic Study Area
- V/C Ratio < 0.30 (LOS A)
- V/C Ratio 0.31 to 0.50 (LOS B)
- V/C Ratio 0.51 to 0.70 (LOS C)
- V/C Ratio 0.71 to 0.84 (LOS D)
- V/C Ratio 0.85 to 1.00 (LOS E)
- V/C Ratio > 1.00 (LOS F)

N

0 0.125 0.25 Miles

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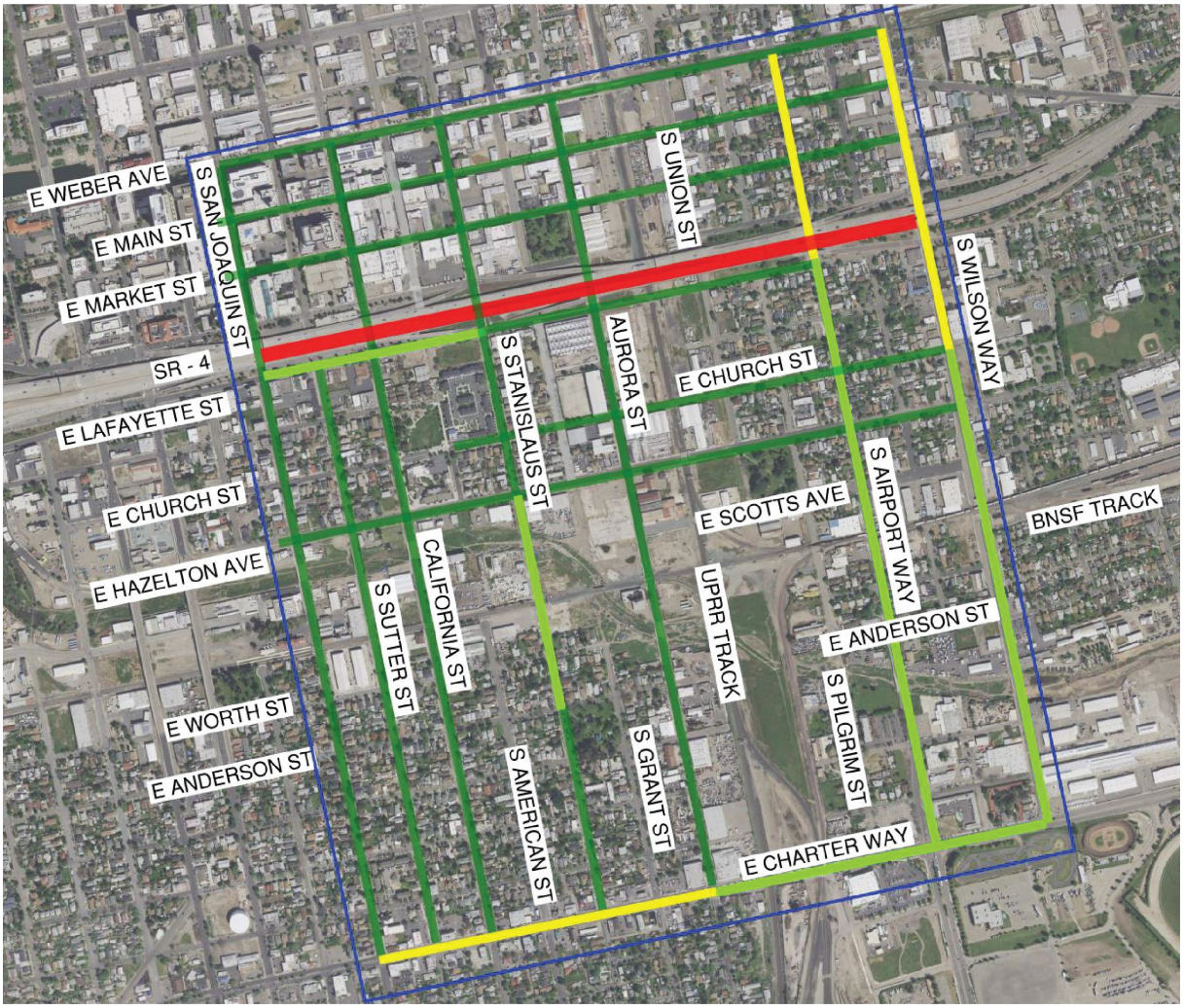
Table 3.15-4: Existing Year (2019) AM Peak Roadway V/C Ratio and LOS

Road	Location	Roadway Classification	V/C Ratio	LOS
SR 4	Between South San Joaquin Street and South Wilson Way	Freeway	1.11	F
East Lafayette Street	Between South San Joaquin Street and South ~~Aurora~~ Stanislaus Street	Local	0.37	B
East Charter Way	Between South San Joaquin Street and South Wilson Way	Arterial	0.4	B
South Stanislaus Street	North of East Lafayette Street ~~SR 4~~	Collector ~~Local~~	0.38 ~~69~~	B ~~C~~
South Airport Way	Between East Weber Avenue and East Lafayette Street	Arterial	0.39	B
South Airport Way	Between East Lafayette Street and East Charter Way	Arterial	0.35	B
South Wilson Way	Between East Weber Avenue and East Church Street	Arterial	0.43	B
South Wilson Way	Between East Church Street and East Charter Way	Arterial	0.45	B
All other Roadways	-	-	<0.30	A

The resulting v/c ratios for roadways in PM peak hour are shown in Figure 3.15-4 and summarized in Table 3.15-5.

Figure 3.15-4: Existing Year (2019) Conditions V/C Ratio PM Peak



EXISTING YEAR (2019) CONDITIONS V/C RATIO PM PEAK

DATA SOURCE: Google Earth, 2020

- Traffic Study Area
- V/C Ratio < 0.30 (LOS A)
- V/C Ratio 0.31 to 0.50 (LOS B)
- V/C Ratio 0.51 to 0.70 (LOS C)
- V/C Ratio 0.71 to 0.84 (LOS D)
- V/C Ratio 0.85 to 1.00 (LOS E)
- V/C Ratio > 1.00 (LOS F)

0 0.125 0.25 Miles

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CREATED ON: 03/29/2021

Table 3.15-5: Existing Year (2019) PM Peak Roadway V/C Ratio and LOS

Road	Location	Roadway Classification	V/C Ratio	LOS
SR 4	Between South San Joaquin Street and South Wilson Way	Freeway	1.08	F
East Lafayette Street	Between South San Joaquin Street and South ~~Aurora~~ Stanislaus Street	Local	0.48	B
East Lafayette Street	Between South Aurora Street and South Airport Way	Local	0.33	B
East Charter Way	Between South San Joaquin Street and South Aurora Street	Arterial	0.62	C
East Charter Way	Between Aurora Street and South Wilson Way	Arterial	0.49	B
South Stanislaus Street	North of ~~SR4~~ Anderson Street	Collector ~~Local~~	0.34 ~~43~~	B
South Stanislaus Street	Between SR4 and East Anderson Street	Local	0.34	B
South Airport Way	Between East Weber Avenue and East Lafayette Street	Arterial	0.63	C
South Airport Way	Between East Lafayette Street and East Charter Way	Arterial	0.49	B
South Wilson Way	Between East Weber Avenue and East Church Street	Arterial	0.62	C
South Wilson Way	Between East Church Street and East Charter Way	Arterial	0.41	B
All other Roadways	-	-	<0.30	A

Existing Traffic Delays at Rail Crossings

In the Existing Year (2019) conditions, 2 freight trains and 3 passenger trains go through the Traffic Study Area at-grade rail crossings during AM and PM peak hours. Table 3.15-6 summarizes the estimated average daily passenger and freight trains for Existing Year (2019) condition and the number of trains going through the transportation RSA during the AM and PM peak hours.

Table 3.15-6: Average Daily Passenger and Freight Trains on Union Pacific Railroad

Scenarios	Diamond Route Freight Trains	NE Connector Route Freight Trains	Diamond Route Passenger Trains	NE Connector Route Passenger Trains
2019 Existing Conditions	36	8	8	4
AM Peak	1	1	1	2
PM Peak	1	1	1	2

Table 3.15-7 shows at-grade rail crossing train occupancy; that is, the total amount of time within each peak hour when the road is unavailable to automobile traffic at highway-rail grade crossings while trains pass in the Existing Year (2019) condition. This includes the minimum activation time of warning devices at the crossing (for example, bells, flashing light signals, and gates), prior warning time, and the time it takes for the grade crossing warning devices to recover after the passing of a train. Total estimated train occupancy times for the existing conditions were calculated by multiplying the estimated number of trains by the occupancy time per train.

Table 3.15-7: Total Train Occupancy Time by Location and AM and PM Peak Hour

Road Name/RR Crossing	2019 Existing Total Occupancy Time/Peak Hour (HH:MM:SS)
East Weber Avenue/UP	00:12:16
East Main Street/UP	00:12:11
East Market Street/UP	00:12:11
East Lafayette Street/UP	00:12:11
East Church Street/UP	00:15:16
East Hazelton Avenue/UP	00:15:22
East Scotts Avenue/UP	00:15:16

AM and PM peak hour delay per auto (in seconds) at each of the railroad crossings for the Existing Year (2019) conditions are shown in Table 3.15-8. Over the course of an hour, each auto traveling eastbound has approximately 21 seconds of delay and approximately 23 seconds traveling westbound in the Existing Year (2019) AM peak hour. In the PM peak hour, each auto travelling eastbound and westbound has approximately 23 seconds of delay in the Existing Year (2019) conditions.

Table 3.15-8: Existing Year (2019) Conditions AM and PM Peak Hour Average Individual Vehicle Delay

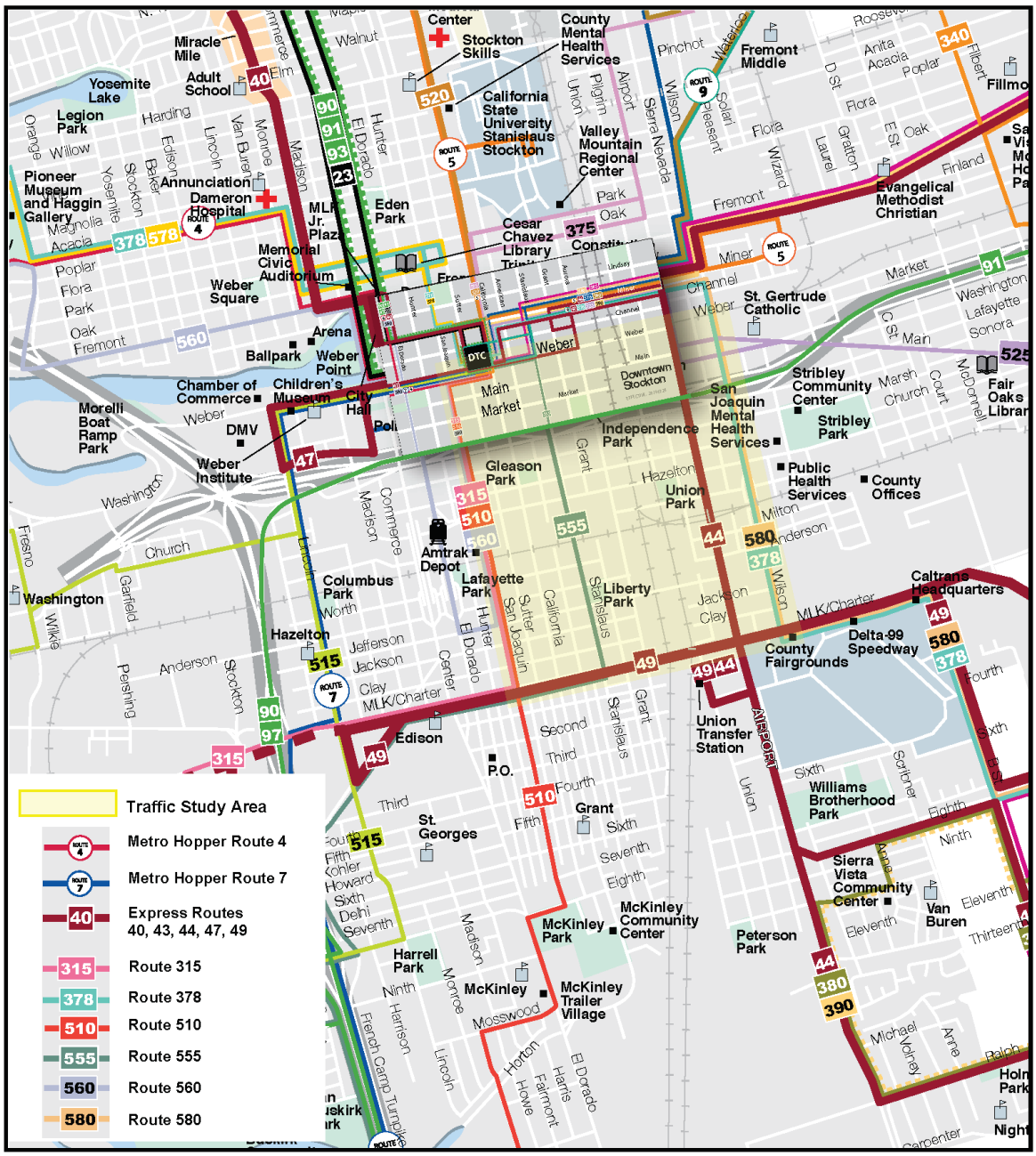
Road Name/RR Crossing	Direction	Existing Year (2019) AM Delay (sec)	Existing Year (2019) PM Delay (sec)
East Weber Avenue/UP	EB	18.2	20.8
	WB	26.5	24.5
East Main Street/UP	WB	18.1	16.5
East Market Street/UP	EB	16.3	16.9
East Lafayette Street/UP	EB	20.0	21.9
	WB	16.8	16.3
East Church Street/UP	EB	24.8	25.4

	WB	25.8	25.1
East Hazelton Avenue/UP	EB	25.7	27.4
	WB	27.8	29.7
East Scotts Avenue/UP	EB	24.9	25.8
	WB	26.3	25.4

Transit

Public transit service in the transportation RSA is primarily provided by San Joaquin RTD. There are 12 transit routes within the Traffic Study Area. Metro Hopper Routes 4 and 7 operate on East Weber Avenue. Routes 315, 510 and 560 operate northbound/southbound on San Joaquin Street, Route 555 operates northbound/southbound on South Stanislaus Street, Express Route 44 operates northbound/southbound on South Airport Way and Routes 378 and 580 operate northbound/southbound on South Wilson Way. Express Route 49 operates eastbound/westbound on East Charter Way, and Express Routes 44 and 47 operate eastbound/westbound on East Weber Ave. Figure 3.15-5 shows the transit routes in the Traffic Study Area. Note that currently, due to COVID-19, San Joaquin RTD has limited services while operating typical weekend schedule during weekdays.

Figure 3.15-5: San Joaquin RTD Transit Routes in the Traffic Study Area



Source: San Joaquin RDT Weekday System Map Effective: January 26, 2020

Pedestrian

There is limited data available to identify pedestrian activity in the Traffic Study Area. Currently there are seven at-grade roadway crossings of UP tracks and seven at-grade roadway crossings of BNSF tracks in the Traffic Study Area. The pedestrian inventory, summarized in Table 3.15-9, identified that only four of the 14 intersections meet ADA compliance.

Table 3.15-9: Pedestrian Facilities with at-Grade Roadway/Rail Crossings in the Traffic Study Area

Intersection	Sidewalk	ADA Compliant Sidewalk	Reason for ADA Non-Compliance
E Weber Ave / UP	Yes	YesNo	No sidewalk east of track ~~N/A~~
E Main St / UP	Yes	Yes	N/A
E Market St / UP	No	No	Missing Sidewalk. Missing detectable warning panel on RR crossing. Missing Audible active warning devices and automated pedestrian gates. No sidewalk east of track
E Lafayette St / UP	No	No	Missing sidewalk
E Church St / UP	~~Yes~~No	No	~~Railroad Light Post/Crossbuck on sidewalk Missing detectable warning panel on RR crossing. Missing Audible active warning devices and automated pedestrian gates.~~ Missing sidewalk
E Hazelton Ave / UP	Yes	Yes	N/A
E Scotts Ave / UP	No	No	Missing sidewalk
S San Joaquin St / BNSF	Yes	Yes	N/A
S Sutter St / BNSF	Yes	No	Railroad Light Post/Crossbuck and utility post on pedestrian travel path. Missing detectable warning panel on RR crossing. Missing Audible active warning devices and automated pedestrian gates. No southeast sidewalk.
S California St / BNSF	~~Yes~~No	No	~~Railroad Light Post/Crossbuck and utility post on pedestrian travel path. Missing detectable warning panel on RR crossing. Missing Audible active warning devices and automated pedestrian gates.~~ Missing sidewalk
S Stanislaus St / BNSF	No	No	Missing sidewalk
S Aurora St / BNSF	Yes	No	Sidewalk exists only on the western side of the road. Missing Audible active warning devices. Missing automated pedestrian gates south of BNSF track. Flangeway gaps on RR track.
S Pilgrim St / BNSF	No	No	Missing Sidewalk

Intersection	Sidewalk	ADA Compliant Sidewalk	Reason for ADA Non-Compliance
S Airport Way / BNSF	Yes	No	Railroad Light Post/Crossbuck on pedestrian travel path. Missing detectable warning panel on RR crossing. Missing Audible active warning devices and automated pedestrian gates.

Trucks

Truck routes in Stockton consist primarily of the State Highway system and major arterial streets within the City. SR 99 and I-5 are considered major truck routes connecting Central Valley cities to other metropolitan areas throughout the state, with the Crosstown Freeway (SR 4) and Arch-Airport Road supporting citywide truck circulation and providing connections to the Stockton Metropolitan Airport and BNSF intermodal facility. Truck route designations include Surface Transportation Assistance Act (STAA) Truck Routes, City Truck Routes, County Truck Routes, Flammable Liquid-Other Routes, and Truck Routes operating from 7am to 10pm. Figure 4-6 in the Traffic Appendix shows the STAA truck routes operating in the Traffic Study Area and City of Stockton.

Currently, with the exception of County Truck Routes, the transportation RSA includes the following roadways with truck route designations:

- **Surface Transportation Assistance Act Truck Routes** on East Charter Way, and on South Airport Way south of East Charter Way
- **City Truck Routes** on South Airport Way, East Hazelton Avenue, East Lafayette Street, East Market Street, East Weber Avenue, South Aurora Street, and South Union Street
- **Flammable Liquid-Other Routes** on East Charter Way, South Wilson Way, and South Airport Way
- **Truck Route–7 am to 10 pm** on South Stanislaus Street.

East Charter Way is the only roadway in the study area which is designated as an STAA truck route.

Bicycle

Bikeway facilities in the City of Stockton include the following facility classes as defined in the Envision Stockton, 2040 General Plan Update and Utility Master Plan Supplemental Draft EIR (This classification also follows Caltrans bike designation criteria):

- **Class 1:** Off-Road Bike Trail, facilities with exclusive right of way for bicyclists and pedestrians, away from the roadway and with cross flows by motor traffic minimized
- **Class 2:** On-Road Bike Lane, facilities established along streets and defined by pavement striping and signage to delineate a portion of a roadway for bicycle travel
- **Class 3:** Bike Route – Mixed Traffic, facilities designated as a preferred route for bicyclists on streets shared with motorized traffic not served by dedicated bikeways often marked by route signs

- **Class 4:** Separated Bikeway, facilities established along streets and defined by not only pavement striping and signage, but also a complete separation with barriers such as on-street parking, grade separation, or delineator poles to delineate a portion of roadway for bicycle travel.

Based on information obtained from the City of Stockton, bicycle movements mirror the low level of activity shown with pedestrian movements in the transportation RSA. For both the AM and PM peak hours, bicycle movements are less than 1 percent of traffic volumes at a sample of transportation RSA intersections. There are no currently designated bicycle network routes and facilities (Classes 1 to 4) and limited bicycle access available in the transportation RSA.

Parking and Loading

In the transportation RSA the existing parking conditions are shown in Table 3.15-10.

Table 3.15-10: On-Street Parking Conditions in the RSA

Street	Limits to	Limits From	On-Street Parking	Jurisdiction
E Weber Ave	Aurora St	S Union St	Yes	Public
E Main St	Aurora St	S Union St	Yes	Public
E Market St	Aurora St	S Union St	Yes	Public
E Lafayette St	S Grant St	S Pilgrim St	No	Public
E Sonora St	UP Tracks	S Union St	Yes	Private west of tracks
E Church St	Aurora St	S Union St	Yes	Private west of tracks
E Hazelton Ave	Aurora St	S Pilgrim St	Yes	Public
E Scotts Ave	Aurora St	S Pilgrim St	Yes	Public
E Charter Way	Aurora St	S Pilgrim St	No	Public

Emergency Access

The Traffic Study Area is served by two fire stations of the City of Stockton Fire Department. Fire Station 3 (1116 E. First Street) is the fire station nearest the proposed Project and accesses the Traffic Study Area via South Airport Way. Fire Station 2 (110 W. Sonora Street) currently uses SR 4 and East Lafayette Street as primary routes for emergency response.

San Joaquin County Office of Emergency Services is responsible for the County's Emergency Operations Plan (EOP), which has been developed pursuant FEMA and Cal OES guidance. As an annex to the Emergency Operations Plan, an Area Plan has been designed to identify responsibilities and provide coordination of emergency response at a local level in San Joaquin County. The Area Plan is also intended to provide guidelines to minimize danger to the public, and to protect property and the environment from exposures as a result of a hazardous materials incident (San Joaquin County 2019a). The Area Plan has been developed pursuant to the California Health and Safety Code.

3.15.5 ENVIRONMENTAL ANALYSIS

CEQA Significance Findings

An environmental analysis of each threshold identified is provided below.

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

Less than Significant Impact. Construction of the proposed Project would not result in any direct impacts on an applicable program, plan, ordinance or policy. However, indirect impacts may occur related to transportation and circulation during construction due to nearby temporary road closures. In order to reduce potential temporary transportation and circulation impacts, a Construction Transportation Plan (Measure BMP TRA-2), and a TMP would be drafted, approved, and filed with the City of Stockton Engineering and Transportation Department, or other agency with jurisdiction over the road, prior to any road closures (Measure BMP TRA-7). The TMP would include alternative routing plans and methods and details for early public outreach. Impacts would therefore be less than significant. With the implementation of Measures BMP TRA-2 and BMP TRA-7, short-term impacts would be considered less than significant, and no mitigation is required.

During operation of the proposed Project, emergency vehicles would benefit from improved local mobility. With the proposed grade separation, there would be fewer delays at crossings since there would be substantially less “gate down” time for trains to travel through the rail corridor. Therefore, the proposed Project would be consistent with applicable programs, plans, ordinances, and policies. No long-term impacts would occur, and no mitigation is required.

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

No Impact. The proposed Project is a transportation project rather than a land use project and is thus subject to CEQA Guidelines Section 15064.3, subsection (b)(2), Criteria for Analyzing Transportation Impacts, Transportation Projects, which states “*Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact* (Emphasis added).

The “Technical Advisory on Evaluating Transportation Impacts in CEQA,” prepared by the State of California Office of Planning and Research in December 2018, was the primary source used to assess the need for project-specific VMT analysis. Pages 19-21 of the Technical Advisory identify transportation project types that are, and are not, likely to lead to measurable or significant increases in VMT. According to the Technical Advisory, “Projects that would not likely lead to a substantial or measurable increase in vehicle travel, and therefore generally should not require an induced travel analysis [i.e., VMT analysis], include:

- Grade separation to separate vehicles from rail, transit, pedestrians, or bicycles, or to replace a lane in order to separate preferential vehicles (for example, HOV, HOT, or trucks) from general vehicles (OPR 2018:20-21)

Following the guidance in the Office of Planning and Research Technical Advisory, because the proposed Project is primarily a grade separation project to partially grade separate passenger rail from freight rail, and to separate rail from roadway traffic, the proposed Project is not likely to lead to measurable or significant increases in VMT. As such, VMT analysis is not required for analyzing the proposed Project's transportation impacts. Therefore, the proposed project would not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b), no short-term or long-term impacts would occur, and no mitigation is required.

However, because the City of Stockton continues to use LOS to evaluate the operating conditions of selected congested roadway segments and interchanges, an LOS analysis was prepared for the proposed Project. Note that this LOS analysis was not used to determine the significance of transportation impacts under CEQA.

No Project Condition

The No Project condition represents the expected future transportation conditions in the Traffic Study Area assuming other approved transportation improvements (planned as part of other plans and studies) would move forward. The No Project condition does not include the proposed grade separation project being evaluated in this document. An annualized traffic growth rate of 1 percent was applied to Existing Year (2019) conditions to forecast Future Year (2045) conditions for the No Project condition. This growth rate represents documented annual growth trends for the City of Stockton and Traffic Study Area.

Intersection LOS

No Project condition intersection operations were analyzed for Future Year (2045) conditions at the study intersections. Identical to the assessment of the Existing Year (2019) condition, intersection operations in Future Year (2045) were evaluated for the AM and PM peak hours. LOS analysis was conducted according to procedures outlined in the 2010 *Highway Capacity Manual* using Synchro 10 traffic analysis software per City and County standards. As discussed in the *Affected Environment* section, LOS E or better represents the acceptable LOS in City of Stockton.

Table 3.15-11 summarizes and compares the intersection LOS results in the No Project Future Year (2045) conditions with the Existing Year (2019) conditions during the AM and PM peak hours. All intersections operate at an acceptable LOS under the No Project Future Year (2045) condition, except for the following two:

- East Lafayette Street and North Stanislaus Street (#8) – This intersection is anticipated to operate at LOS F during the AM and PM peak hour.
- East Lafayette Street and South Airport Way (#10) – This intersection is anticipated to operate at LOS F during the PM peak hour.

Table 3.15-11: Existing Year (2019) and Future Year (2045) No Project Intersection LOS Results Comparison

Intersection		Inter-section Type	Existing Year (2019)				Future Year 2045 No Project				Difference			
			AM Delay (sec)	AM LOS	PM Delay (sec)	PM LOS	AM Delay (sec)	AM LOS	PM Delay (sec)	PM LOS	AM Delay Diff (sec)	PM Delay Diff. (sec)	AM LOS Change	PM LOS Change
1	N Stanislaus St and E. Weber Ave	Signalized	15.8	B	16.9	B	24.2	C	23.5	C	8.4	6.6	B to C	B to C
2	S Airport Way and E Weber Ave	Signalized	11.8	B	14.5	B	14.2	B	27.8	C	2.4	13.3	N/A	B to C
3	N Stanislaus St and E Main St	Signalized	9.2	A	8.8	A	17.3	B	9.2	A	8.1	0.4	A to B	N/A
4	S Airport Way and E Main St	Signalized	9.6	A	7.8	A	11	B	10.1	B	1.4	2.3	A to B	A to B
5	N Stanislaus St and E Market St	Signalized	11.8	B	8.3	A	13.9	B	8.7	A	2.1	0.4	N/A	N/A
6	S Airport Way and E Market St	Signalized	9.2	A	11.2	B	10.2	B	35.5	D	1	24.3	A to B	B to D
7	E Lafayette St and N California St	Signalized	16.1	B	18.3	B	17.8	B	20.7	C	1.7	2.4	N/A	B to C

Intersection		Inter-section Type	Existing Year (2019) AM Delay (sec)	AM LOS	Existing Year (2019) PM Delay (sec)	PM LOS	Future Year 2045 No Project AM Delay (sec)	AM LOS	Future Year 2045 No Project PM Delay (sec)	PM LOS	Difference AM Delay Diff (sec)	Difference PM Delay Diff. (sec)	Difference AM LOS Change	Difference PM LOS Change
8	E Lafayette St and N Stanislaus St	Signalized	192.2	F	87.8	F	319	F	174.5	F	126.8	86.7	N/A	N/A
9	E Lafayette St and S Aurora St	All-Way Stop Control	11.8	B	15.6	B	16.8	B	36.9	D	5	21.3	N/A	B to D
10	E Lafayette St and S Airport Way	Side Street Stop Control	6.6	A	117.6	**F**	32.1	C	560.7	**F**	25.5	443.1	A to C	N/A
11	S Wilson Way and E Church St	Side Street Stop Control	1.6	A	2	A	5.7	A	15.9	B	4.1	13.9	N/A	A to B
12	E Hazelton Ave and S San Joaquin St	All-Way Stop Control	8.3	A	8.9	A	8.7	A	9.6	A	0.4	0.7	N/A	N/A
13	E Hazelton Ave and S Sutter St	Side Street Stop Control	4.2	A	4.5	A	4.5	A	5.1	A	0.3	0.6	N/A	N/A
14	E Hazelton Ave and N California St	All-Way Stop Control	8.5	A	9.3	A	9.1	A	10.3	B	0.6	1	N/A	A to B

Intersection		Inter-section Type	Existing Year (2019)				Future Year 2045 No Project				Difference			
			AM Delay (sec)	AM LOS	PM Delay (sec)	PM LOS	AM Delay (sec)	AM LOS	PM Delay (sec)	PM LOS	AM Delay Diff (sec)	PM Delay Diff. (sec)	AM LOS Change	PM LOS Change
15	E Hazelton Ave and N Stanislaus St	All-Way Stop Control	9.8	B	62.6	E	13	B	22.8	C	3.2	-39.8	N/A	E to C
16	E Hazelton Ave and S Aurora St	All-Way Stop Control	8.7	A	9.7	A	9.5	A	11.3	B	0.8	1.6	N/A	A to B
17	E Hazelton Ave and S Airport Way	Signalized	8	A	9.8	A	17.1	B	20.1	C	9.1	10.3	A to B	A to C
18	E Hazelton Ave and S Wilson Way	Signalized	14.3	B	16	B	16.3	B	20.6	C	2	4.6	N/A	B to C
19	E Anderson St and S San Joaquin St	All-Way Stop Control	7.6	A	7.9	A	7.9	A	8.2	A	0.3	0.3	N/A	N/A
20	E Anderson St and S Sutter St	All-Way Stop Control	7.5	A	7.6	A	7.7	A	7.9	A	0.2	0.3	N/A	N/A
21	E Anderson St and N California St	Side Street Stop Control	3.8	A	3.3	A	3.9	A	3.6	A	0.1	0.3	N/A	N/A

Intersection		Inter-section Type	Existing Year (2019) AM Delay (sec)	AM LOS	Existing Year (2019) PM Delay (sec)	PM LOS	Future Year 2045 No Project AM Delay (sec)	AM LOS	Future Year 2045 No Project PM Delay (sec)	PM LOS	Difference AM Delay Diff (sec)	Difference PM Delay Diff. (sec)	Difference AM LOS Change	Difference PM LOS Change
22	E Anderson St and N Stanislaus St	Side Street Stop Control	0.9	A	1.9	A	1	A	2.5	A	0.1	0.6	N/A	N/A
23	E Anderson St and S Aurora St	Side Street Stop Control	0.4	A	1.5	A	0.4	A	1.6	A	0	0.1	N/A	N/A
24	E Charter Way and N California St	Signalized	12.7	B	18.4	B	14.6	B	23.1	C	1.9	4.7	N/A	B to C
25	E Charter Way and N Stanislaus St	Side Street Stop Control	6.5	A	95.5	F	29.7	C	205.8	F	23.2	110.3	A to C	N/A
26	E Charter Way and S Aurora St	Side Street Stop Control	1	A	0.7	A	1.1	A	1.4	A	0.1	0.7	N/A	N/A
27	E Charter Way and S Airport Way	Signalized	21.4	C	23.3	C	25.2	C	28.8	C	3.8	5.5	N/A	N/A
28	E Charter Way and S Wilson Way	Signalized	21.9	C	24.2	C	25	C	27.4	C	3.1	3.2	N/A	N/A

No Project Future Year (2045) Traffic Delays at Rail Crossings

In the No Project Future Year (2045) condition there are 3 freight trains and 3 passenger trains that go through the Traffic Study Area at grade rail crossings during AM and PM peak hours. Table 3.15-12 provides the summary of the estimated average daily passenger and freight trains for Existing Year (2019) conditions and No Project Future Year (2045) conditions and the number of trains going through the Traffic Study Area during the AM and PM peak hours. The Future Year (2045) condition estimates of trains were developed based on expected increases in freight and passenger rail activity from available forecasts, including 1 additional freight train and (no change in passenger trains) from Existing Year (2019) conditions.

Table 3.15-12: Average Daily Passenger and Freight Trains on Union Pacific Railroad

Scenarios	Diamond Route Freight Trains	NE Connector Route Freight Trains	Diamond Route Passenger Trains	NE Connector Route Passenger Trains
Existing Year (2019) Conditions	36	8	8	4
Future Year (2045) No Project	52	12	16	10
Existing Year (2019) AM Peak	1	1	1	2
Existing Year (2019) PM Peak	1	1	1	2
Future Year (2045) AM Peak	2	1	1	2
Future Year (2045) PM Peak	2	1	1	2

Table 3.15-13 shows train occupancy; that is, the total amount of time within each peak hour when the road is unavailable to automobile traffic at highway-rail grade crossings while trains pass in the Existing Year (2019) conditions and No Project Future Year (2045) conditions. This includes the minimum activation time of warning devices at the crossing (for example, bells, flashing light signals, and gates), prior warning time, and the time it takes for the grade crossing warning devices to recover after the passing of a train. Total estimated train occupancy times for the existing conditions was calculated by multiplying the estimated number of trains by the occupancy time per train. It is estimated that approximately 5 minutes will be added to train occupancy times in the Future Year (2045) No Project conditions compared to Existing Year (2019) conditions. This is due to the estimated increase in length of the trains and the addition of 1 more freight train during each of the AM and PM peak hours.

Table 3.15-13: Total Train Occupancy Time by Location and AM and PM Peak Hour

Road Name/RR Crossing	Existing Year (2019) Total Occupancy Time/Peak Hour (HH:MM:SS)	No Project Future Year (2045) Total Occupancy Time/Peak Hour (HH:MM:SS)
East Weber Avenue/UP	00:12:16	00:17:47
East Main Street/UP	00:12:11	00:17:43
East Market Street/UP	00:12:11	00:17:43
East Lafayette Street/UP	00:12:11	00:17:43
East Church Street/UP	00:15:16	00:21:24
East Hazelton Avenue/UP	00:15:22	00:21:30
East Scotts Avenue/UP	00:15:16	00:21:24

AM and PM peak hour delay per auto (in seconds) at each of the railroad crossings for the No Project Future Year (2045) and Existing Year (2019) conditions are shown in Table 3.15-14. The delay per auto in the Future Year (2045) No Project condition are expected to be higher than Existing Year (2019) conditions. This is due to the increase in train occupancy times (including potential number of trains and length of trains anticipated in the future) and the growth in traffic demand.

Table 3.15-14: No Project Future Year (2045) AM and PM Peak Hour Average Individual Vehicle Delay

Road Name/RR Crossing	Direction	Existing Year (2019) AM Peak Hour Delay (sec)	Existing Year (2019) PM Peak Hour Delay (sec)	Future Year (2045) No Project AM Peak Hour Delay (sec)	Future Year (2045) No Project PM Peak Hour Delay (sec)
East Weber Avenue/UP	EB	18.2	20.8	33.4	36.3
	WB	26.5	24.5	37.8	35.3
East Main Street/UP	WB	18.1	16.5	29.6	28.9
East Market Street/UP	EB	16.3	16.9	28.4	29.5
East Lafayette Street/UP	EB	20.0	21.9	34.9	38.3
	WB	16.8	16.3	29.3	28.5
East Church Street/UP	EB	24.8	25.4	40.4	41.4
	WB	25.8	25.1	42.1	40.9
	EB	25.7	27.4	41.8	44.6

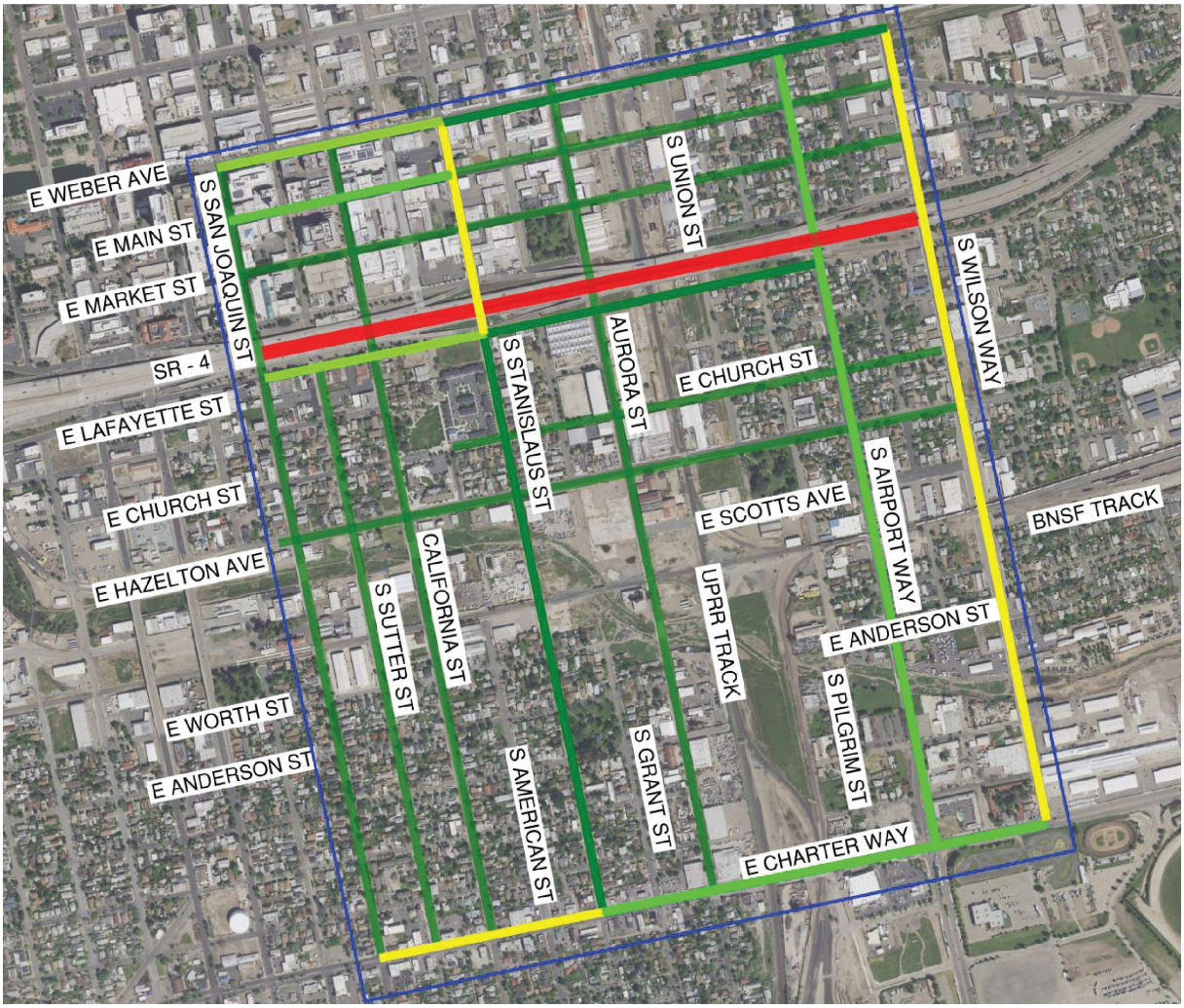
Road Name/RR Crossing	Direction	Existing Year (2019) AM Peak Hour Delay (sec)	Existing Year (2019) PM Peak Hour Delay (sec)	Future Year (2045) No Project AM Peak Hour Delay (sec)	Future Year (2045) No Project PM Peak Hour Delay (sec)
East Hazelton Avenue/UP	WB	27.8	29.7	43.3	44.7
East Scotts Avenue/UP	EB	24.9	25.8	40.7	42.0
	WB	26.3	25.4	43.0	41.4

ROADWAY SEGMENTS

Roadway segment operations were analyzed for Future Year (2045) in the No Project condition. Identical to the assessment of the Existing Year (2019) condition, roadway segments were evaluated using v/c ratios to measure the roadway performance, where a v/c ratio of 1.0 or above represents failure or LOS F.

With the exception of SR 4 (Crosstown Freeway), all of the roadway levels of service in the transportation RSA perform at LOS E or better in the No Project condition (acceptable per the RCMP). The resulting v/c ratios for roadways in the morning peak hour for the No Project Future Year (2045) condition are shown in Figure 3.15-6 and summarized in Table 3.15-15.

Figure 3.15-6: No Project Future Year (2045) Condition V/C Ratio and LOS, AM Peak Hour



NO PROJECT FUTURE YEAR (2045) CONDITION V/C RATIO AND LOS, AM PEAK HOUR

DATA SOURCE: Google Earth, 2020

- Traffic Study Area
- V/C Ratio < 0.30 (LOS A)
- V/C Ratio 0.31 to 0.50 (LOS B)
- V/C Ratio 0.51 to 0.70 (LOS C)
- V/C Ratio 0.71 to 0.84 (LOS D)
- V/C Ratio 0.85 to 1.00 (LOS E)
- V/C Ratio > 1.00 (LOS F)

N

0 0.125 0.25 Miles

HDR

STOCKTON DIAMOND – Unlocking Northern California's Freight and Passenger Rail Potential

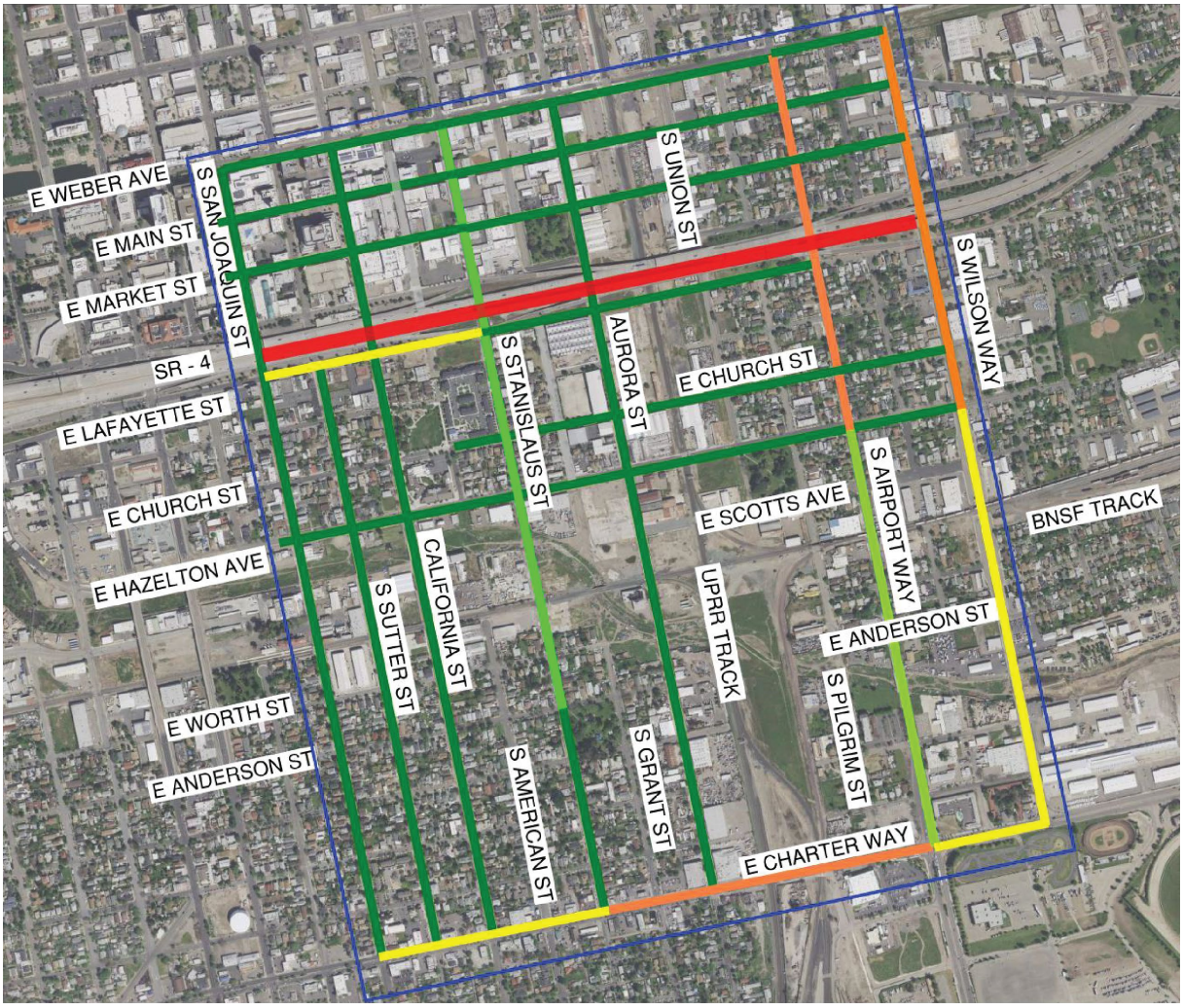
CREATED ON: 03/29/2021

Table 3.15-15: No Project Future Year (2045) Condition AM Peak Roadway V/C Ratio and LOS

Road	Location	Roadway Classification	V/C Ratio	LOS
East Weber Ave	Between South San Joaquin Street and South Stanislaus Street	Collector	0.32	B
East Main Street	Between South San Joaquin Street and South Stanislaus Street	Arterial	0.34	B
SR 4	Between South San Joaquin Street and South Wilson Way	Freeway	1.14	**F**
East Lafayette Street	Between South San Joaquin Street and South Aurora Street	Local	0.47	B
East Charter Way	Between South San Joaquin Street and South Stanislaus Street	Arterial	0.59	C
East Charter Way	Between South Stanislaus Street and South Wilson Way	Arterial	0.5	B
South Stanislaus Street	North of East Lafayette Street ~~SR 4~~	Collector ~~Local~~	0.62 ~~0.89~~	C ~~E~~
South Airport Way	Between East Weber Avenue and East Lafayette Street	Arterial	0.50 ~~0.48~~	B
South Airport Way	Between East Lafayette Street and East Hazelton Avenue	Arterial	0.45	B
South Airport Way	Between East ~~Lafayette Street~~ Hazelton Avenue and East Charter Way	Arterial	0.434	B
South Wilson Way	Between East Weber Avenue and East Church Street	Arterial	0.58	C
South Wilson Way	Between East Church Street and East Church Street	Arterial	0.56	C
All other Roadways	-	-	<0.30	A

The resulting v/c ratios for roadways in the No Project condition PM peak hour are shown in Figure 3.15-7 and summarized in Table 3.15-16.

Figure 3.15-7: No Project Future Year (2045) Condition V/C Ratio and LOS, PM Peak Hour



NO PROJECT FUTURE YEAR (2045) CONDITION V/C RATIO AND LOS, PM PEAK HOUR

DATA SOURCE: Google Earth, 2020

- Traffic Study Area
- V/C Ratio < 0.30 (LOS A)
- V/C Ratio 0.31 to 0.50 (LOS B)
- V/C Ratio 0.51 to 0.70 (LOS C)
- V/C Ratio 0.71 to 0.84 (LOS D)
- V/C Ratio 0.85 to 1.00 (LOS E)
- V/C Ratio > 1.00 (LOS F)

N

0 0.125 0.25 Miles

HDR

STOCKTON DIAMOND – Unlocking Northern California's Freight and Passenger Rail Potential

CREATED ON: 03/29/2021

Table 3.15-16: No Project Future Year (2045) Condition PM Peak Roadway V/C Ratio and LOS

Road	Location	Roadway Classification	V/C Ratio	LOS
SR 4	Between South San Joaquin Street and South Wilson Way	Freeway	1.1	**F**
East Lafayette Street	Between South San Joaquin Street and South Stanislaus Street ~~Aurora Street~~	Local	0.63	C
~~East Lafayette Street~~	~~Between South Aurora Street and South Airport Way~~	~~Local~~	~~0.42~~	~~B~~
East Charter Way	Between South San Joaquin Street and South Aurora Street	Arterial	0.69	C
East Charter Way	Between Aurora Street and South Airport Way	Arterial	0.8	D
East Charter Way	Between South Airport Way and South Wilson Way	Arterial	0.63	C
South Stanislaus Street	North of ~~SR4~~ East Hazelton Avenue	Collector ~~Local~~	0.39 ~~56~~	B ~~C~~
South Stanislaus Street	Between ~~SR4~~ East Hazelton Avenue and East Anderson Street	Local	0.44	B
South Airport Way	Between East Weber Avenue and East ~~Hazelton~~ Lafayette Street	Arterial	0.81	D
South Airport Way	Between East Lafayette Street and East Hazelton Avenue	Arterial	0.72	D
South Airport Way	Between East Hazelton ~~Street~~ Avenue and East Charter Way	Arterial	0.46	B
South Wilson Way	Between East Weber Avenue and East Hazelton ~~Street~~ Avenue	Arterial	0.81	D
South Wilson Way	Between East Hazelton ~~Street~~ Avenue and East Charter Way	Arterial	0.62	C
All other Roadways	-	-	<0.30	A

TRANSIT

Under the No Project condition, no impacts on existing transit routes in the Traffic Study Area.

PEDESTRIAN

Under the No Project condition, no changes to existing intersection geometry, land uses, and sidewalks or crosswalks in the vicinity would occur, nor would there be changes to existing pedestrian access. With the exception of pedestrian improvements planned by other, independent projects, existing approaches to the at grade crossings and ADA accessibility is anticipated to remain unchanged.

BICYCLE

Under the No Project condition, the City's proposed bicycle facilities in the Traffic Study Area, shown in Figure 3.15-8, would be implemented. The facilities include those planned for East Weber Avenue, East Main Street, East Market Street, East Hazelton Avenue, California Street, South Aurora Street and South ~~Aurora Street~~ Airport Way. These planned facilities are considered part of the No Project condition and they would have a positive impact to the bicycle facilities in the Traffic Study Area.

PARKING AND LOADING

Under the No Project condition, no changes to existing parking and loading conditions would occur.

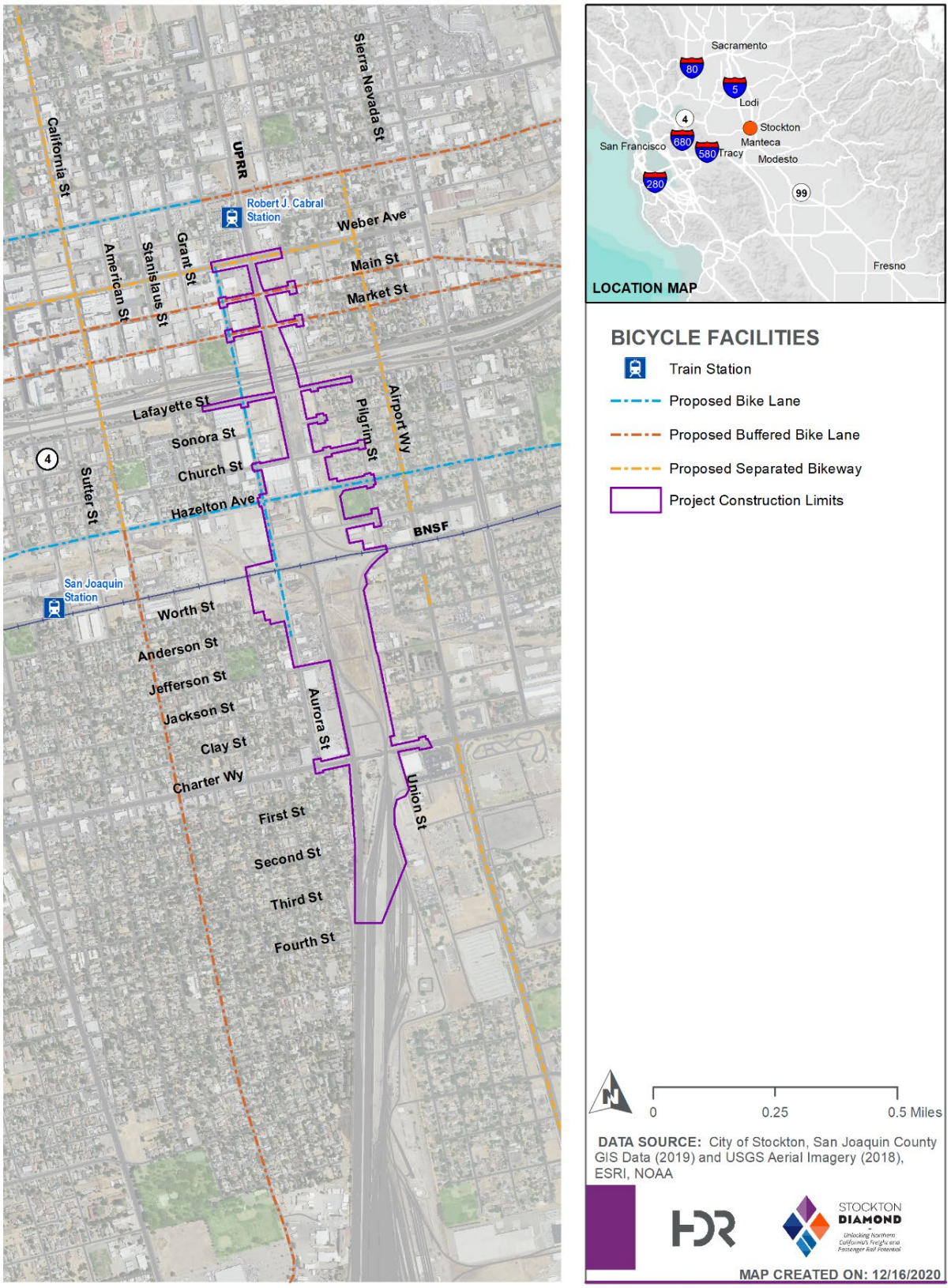
EMERGENCY RESPONSE

Under the No Project condition, no changes to existing routing changes to the emergency response routes would occur.

PERMANENT ROAD CLOSURES

No proposed permanent road closures would occur under the No Project condition.

Figure 3.15-8: Proposed Bicycle Facilities in Traffic Study Area



Proposed Project

Intersection LOS

Proposed Project intersection operations were analyzed for Future Year (2045) at the study intersections within the Traffic Study Area. Identical to the assessment of the Existing Year (2019) condition, intersection operations in the Future Year (2045) condition were evaluated for the AM and PM peak hours. LOS analysis was conducted according to procedures outlined in the 2010 *Highway Capacity Manual* using Synchro 10 traffic analysis software per City and County standards. As discussed in the *Affected Environment* section, LOS E or better represents the acceptable LOS in the City of Stockton Downtown area and LOS D or better represents the acceptable LOS outside of the Downtown area (intersections along South Airport Way and South Wilson Way).

Table 3.15-17 summarizes and compares the intersection LOS results in the No Project Future Year (2045) conditions with the proposed Project Future Year (2045) during the AM and PM peak hours. All intersections operate at an acceptable LOS under the proposed Project Future Year (2045) condition, except for the following:

- East Lafayette Street and North Stanislaus Street (#8) – This intersection operates at LOS F during the AM and PM peak hour.

All intersections operate at an acceptable LOS in the 2045 proposed Project Conditions in the PM peak hours except for East Lafayette Street and North Stanislaus Street (#8) and East Lafayette Street and South Airport Way (#10). The East Lafayette Street and North Stanislaus Street (#8) intersection operates at LOS F and it should be noted this intersection was LOS F in both the Existing 2019 and 2045 No Project Alternative analyses. East Lafayette Street and South Airport Way (#10) operates at LOS E and it should be noted this intersection was LOS F in both the Existing 2019 and 2045 No Project Alternative analyses.

The intersections of East Lafayette Street and South Airport Way (#10) and East Lafayette Street and South Aurora Street (#9) would improve their level of service as a result of the closure of the East Lafayette Street at-grade crossing of the UP tracks.

Table 3.15-17: Future Year (2045) No Project and Future Year (2045) Proposed Project Intersection LOS Results Comparison

Intersection		Inter-section Type	Future Year (2045) No Project				Future Year (2045) Proposed Project				Difference			
			AM Delay (sec)	AM LOS	PM Delay (sec)	PM LOS	AM Delay (sec)	AM LOS	PM Delay (sec)	PM LOS	AM Delay Diff (sec)	PM Delay Diff. sec)	AM LOS Change	PM LOS Change
1	North Stanislaus Street and East Weber Avenue	Signalized	24.2	C	23.5	C	24.2	C	23.5	C	0	0	N/A	N/A
2	South Airport Way and East Weber Avenue	Signalized	14.2	B	27.8	C	14.2	B	27.8	C	0	0	N/A	N/A
3	North Stanislaus Street and East Main Street	Signalized	17.3	B	9.2	A	17.3~~5~~	B	9.3	A	0~~.2~~	0.1	N/A	N/A
4	South Airport Way and East Main Street	Signalized	11	B	10.6	B	11	B	10.1	B	0	0	N/A	N/A
5	North Stanislaus Street and East Market Street	Signalized	13.9	B	8.7	A	14.3	B	8.7	A	0.4	0	N/A	N/A
6	South Airport Way and East Market Street	Signalized	10.2	B	35.5	D	11.1	B	40.5	D	0.9	5	N/A	N/A

Intersection		Inter-section Type	Future Year (2045) No Project				Future Year (2045) Proposed Project				Difference			
			AM Delay (sec)	LOS	PM Delay (sec)	LOS	AM Delay (sec)	LOS	PM Delay (sec)	LOS	AM Delay Diff (sec)	PM Delay Diff. sec)	AM LOS Change	PM LOS Change
7	East Lafayette Street and North California Street	Signalized	17.8	B	20.7	C	17.8	B	20.7	C	0	0	N/A	N/A
8	East Lafayette Street and North Stanislaus Street	Signalized	319	F	174.5	F	319.8	F	178.3	F	0.8	3.8	N/A	N/A
9	East Lafayette Street and South Aurora Street	All-Way Stop Control	16.8	B	36.9	D	10.6	B	10.7	B	-6.2	-26.2	NA	D to B
10	East Lafayette Street and South Airport Way	Side Street Stop Control	32.1	C	560.7	F	1.5	A	55.4	E	-30.6	-505.3	C to A	F to E
11	South Wilson Way and East Church Street	Side Street Stop Control	5.7	A	15.9	B	5.7	A	15.9	B	0	0	N/A	N/A
12	East Hazelton Avenue and South San Joaquin Street	All-Way Stop Control	8.7	A	9.6	A	8.7	A	9.6	A	0	0	N/A	N/A

Intersection		Inter-section Type	Future Year (2045) No Project AM Delay (sec)	LOS	Future Year (2045) No Project PM Delay (sec)	LOS	Future Year (2045) Proposed Project AM Delay (sec)	LOS	Future Year (2045) Proposed Project PM Delay (sec)	LOS	Difference AM Delay Diff (sec)	Difference PM Delay Diff. sec)	Difference AM LOS Change	Difference PM LOS Change
13	East Hazelton Avenue and South Sutter Street	Side Street Stop Control	4.5	A	5.1	A	4.5	A	5.1	A	0	0	N/A	N/A
14	East Hazelton Avenue and North California Street	All-Way Stop Control	9.1	A	10.3	B	9.1	A	10.3	B	0	0	N/A	N/A
15	East Hazelton Avenue and North Stanislaus Street	All-Way Stop Control	13.0	B	22.8	C	16.8	B	60	E	3.8	37.2	N/A	C to E
16	East Hazelton Avenue and South Aurora Street	All-Way Stop Control	9.5	A	21.1 ~~11.3~~	B	31.1	C	49.4	D	11.6 ~~21~~	38.1	A to C	B to D
17	East Hazelton Avenue and South Airport Way	Signalized	17.1	B	20.1	C	18.6	B	27.8	C	1.5	7.7	N/A	N/A
18	East Hazelton Avenue and South Wilson Way	Signalized	16.3	B	20.6	C	16.3	B	20.6	C	0	0	N/A	N/A

Intersection		Inter-section Type	Future Year (2045) No Project				Future Year (2045) Proposed Project				Difference			
			AM Delay (sec)	AM LOS	PM Delay (sec)	PM LOS	AM Delay (sec)	AM LOS	PM Delay (sec)	PM LOS	AM Delay Diff (sec)	PM Delay Diff. sec)	AM LOS Change	PM LOS Change
19	East Anderson Street and South San Joaquin Street	All-Way Stop Control	7.9	A	8.2	A	7.9	A	8.2	A	0	0	N/A	N/A
20	East Anderson Street and South Sutter Street	All-Way Stop Control	7.7	A	7.9	A	7.7	A	7.9	A	0	0	N/A	N/A
21	East Anderson Street and North California Street	Side Street Stop Control	3.9	A	3.6	A	3.9	A	3.6	A	0	0	N/A	N/A
22	East Anderson Street and North Stanislaus Street	Side Street Stop Control	1	A	2.5	A	1	A	2.5	A	0	0	N/A	N/A
23	East Anderson Street and South Aurora Street	Side Street Stop Control	0.4	A	1.6	A	0.4	A	1.6	A	0	0	N/A	N/A

Intersection		Inter-section Type	Future Year (2045) No Project				Future Year (2045) Proposed Project				Difference			
			AM Delay (sec)	LOS	PM Delay (sec)	LOS	AM Delay (sec)	LOS	PM Delay (sec)	LOS	AM Delay Diff (sec)	PM Delay Diff. sec)	AM LOS Change	PM LOS Change
24	East Charter Way and North California Street	Signalized	14.6	B	23.1	C	14.6	B	23.1	C	0	0	N/A	N/A
25	East Charter Way and North Stanislaus Street	Side Street Stop Control	29.7	C	0.9	A	29.7	C	0.9	A	0	0	N/A	N/A
26	East Charter Way and South Aurora Street	Side Street Stop Control	1.1	A	1.4	A	1.1	A	1.4	A	0	0	N/A	N/A
27	East Charter Way and South Airport Way	Signalized	25.2	C	28.8	C	25.2	C	28.8	C	0	0	N/A	N/A
28	East Charter Way and South Wilson Way	Signalized	25	C	27.4	C	25	C	27.4	C	0	0	N/A	N/A

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Proposed Project Future Year (2045) Traffic Delays at Rail Crossings

In the proposed Project Future Year (2045) condition 3 freight trains and 3 passenger trains go through the Traffic Study Area at-grade rail crossings during AM and PM peak hours. Table 3.15-18 provides the summary of the estimated average daily passenger and freight trains for Existing Year (2019) conditions and proposed Project Future (2045) conditions and the number of trains going through the Traffic Study Area during the AM and PM peak hours. The Future Year (2045) estimates of trains were developed based on expected increases in freight and passenger rail activity from available forecasts, including 1 additional freight train (and no change in passenger trains) from Existing Year (2019) conditions.

Table 3.15-18: Average Daily Passenger and Freight Trains on Union Pacific Railroad

Scenarios	Diamond Route Freight Trains	NE Connector Route Freight Trains	Diamond Route Passenger Trains	NE Connector Route Passenger Trains
Existing Year (2019) Conditions	36	8	8	4
No Project Future Year (2045) Conditions	52	12	16	10
Existing Year (2019) AM Peak	1	1	1	2
Existing Year (2019) PM Peak	1	1	1	2
Future Year (2045) AM Peak	2	1	1	2
Future Year (2045) PM Peak	2	1	1	2

Table 3.15-19 shows at-grade rail crossing train occupancy; that is, the total amount of time within each peak hour when the road is unavailable to automobile traffic at highway-rail grade crossings while trains pass in the Existing Year (2019) Conditions and proposed Project Future (2045) conditions. This includes the minimum activation time of warning devices at the crossing (for example, bells, flashing light signals, and gates), prior warning time, and the time it takes for the grade crossing warning devices to recover after the passing of a train. Total estimated train occupancy times for the existing conditions were calculated by multiplying the estimated number of trains by the occupancy time per train. It is estimated that approximately five minutes will be added to train occupancy times in the Future Year (2045) No Project condition compared to Existing Year (2019) conditions. This is due to the estimated increase in length of the trains and the addition of one more freight train during each of the AM and PM peak hours. Since the number of trains and lengths of the trains are not estimated to change between No Project Future Year (2045) conditions and proposed Project Future Year (2045) conditions, train occupancy times remain the same for East Weber Avenue, East Main Street, and East Market Street crossing locations.

Table 3.15-19: Total Train Occupancy Time by Location and AM and PM Peak Hour

Road Name/RR Crossing	Existing Year (2019) Total Occupancy Time/Peak Hour (HH:MM:SS)	No Project Future Year (2045) Total Occupancy Time/Peak Hour (HH:MM:SS)	Proposed Project Future Year (2045) Total Occupancy Time/Peak Hour (HH:MM:SS)
East Weber Avenue/UP	00:12:16	00:17:47	00:17:47
East Main Street/UP	00:12:11	00:17:43	00:17:43
East Market Street/UP	00:12:11	00:17:43	00:17:43
East Lafayette Street/UP	00:12:11	00:17:43	00:00:00
East Church Street/UP	00:15:16	00:21:24	00:00:00
East Hazelton Avenue/UP	00:15:22	00:21:30	00:13:14
East Scotts Avenue/UP	00:15:16	00:21:24	00:13:09

During operation of the proposed Project Future Year (2045) condition, the East Lafayette/UP crossing location and East Church Street/UP crossing location will be permanently closed to through traffic. Therefore, there are no train occupancy times at those crossings estimated for the Future Year (2045) proposed Project condition.

With the proposed Project Future Year (2045) condition, the East Hazelton Avenue/UP and East Scotts Avenue/UP crossing locations will be grade separated with the Diamond Route for both passenger and freight trains. Even though the main flyover of the Diamond Route will be grade separated at these locations, a connection track (NE Connector) will remain at grade impacting both the East Hazelton and East Scotts crossing locations. With this proposed Project Future Year (2045) condition configuration, trains at these crossings will still occur due to the NE Connector; however, the number of trains impacting the remaining at-grade locations at East Hazelton and East Scotts will be reduced to 1 freight train and 2 passenger trains per peak hour (compared to 3 passenger and 3 freight trains for each peak hour in the No Project Future Year [2045] condition).

AM and PM peak hour delay per auto (in seconds) at each of the railroad crossings for the proposed Project Future Year (2045) condition, No Project Future Year (2045) and Existing Year (2019) conditions are shown in Table 3.15-24. The delay per auto in the No Project Future Year (2045) condition are expected to be higher than Existing Year (2019) conditions. This is due to the increase in train occupancy times (including potential number of trains and length of trains anticipated in the future) and the growth in traffic demand. The average auto delay for No Project Future Year (2045) condition compared to the proposed Project Future Year (2045) condition shows a substantial improvement of estimated reduced delay in the AM Peak period. In the PM Peak period from No Project to proposed Project conditions there are nominal increases in average auto delays at the East Weber, East Main, and East Market locations, reduced delay at East Hazelton Avenue and East Scotts, and eliminated delay at the two locations with road closures.

Table 3.15-20: Proposed Project Future Year (2045), No Project Future Year (2045), and Existing Year (2019) Conditions AM and PM Peak Hour Average Individual Vehicle Delay

Road Name/RR Crossing	Direction	Existing Year (2019) AM Peak Hour Delay (sec)	Existing Year (2019) PM Peak Hour Delay (sec)	No Project Future Year (2045) AM Peak Hour Delay (sec)	No Project Future Year (2045) PM Peak Hour Delay (sec)	Proposed Project Future Year (2045) AM Peak Hour Delay (sec)	Proposed Project Future Year (2045) PM Peak Hour Delay (sec)
East Weber Avenue/UP	EB	18.2	20.8	33.4	36.3	33.4	36.3
	WB	26.5	24.5	37.8	35.3	37.8	35.3
East Main Street/UP	WB	18.1	16.5	29.6	28.9	29.8	29.0
East Market Street/UP	EB	16.3	16.9	28.4	29.5	29.4	31.0
East Lafayette Street/UP	EB	20.0	21.9	34.9	38.3	-	-
	WB	16.8	16.3	29.3	28.5	-	-
East Church Street/UP	EB	24.8	25.4	40.4	41.4	-	-
	WB	25.8	25.1	42.1	40.9	-	-
East Hazelton Avenue/UP	EB	25.7	27.4	41.8	44.6	34.6	38.9
	WB	27.8	29.7	43.3	44.7	34.7	38.1
East Scotts Avenue/UP	EB	24.9	25.8	40.7	42.0	30.5	31.5
	WB	26.3	25.4	43.0	41.4	32.2	31.0

The Proposed Project Future Year (2045) analysis concludes that:

- 30 percent of traffic on East Lafayette Street eastbound (EB) will re-route to East Market Street with the remaining 70 percent re-routing to Hazelton Avenue.
- 16 percent of the traffic on East Lafayette Street westbound (WB) will re-route to East Main Street with the remaining 84 percent re-routing to East Hazelton Avenue. As shown in the Traffic Delay table above, compared to the No Project Future Year (2045) condition, there are only expected minor additional delays at the East Main Street/UP and East Market Street/UP crossing locations in the proposed Project condition as a result of East Lafayette Street location closure and re-routing.
- It is estimated that 100 percent of the traffic on Church Street (EB and WB) will re-route to East Hazelton Avenue during the Build condition when East Church Street will be closed.

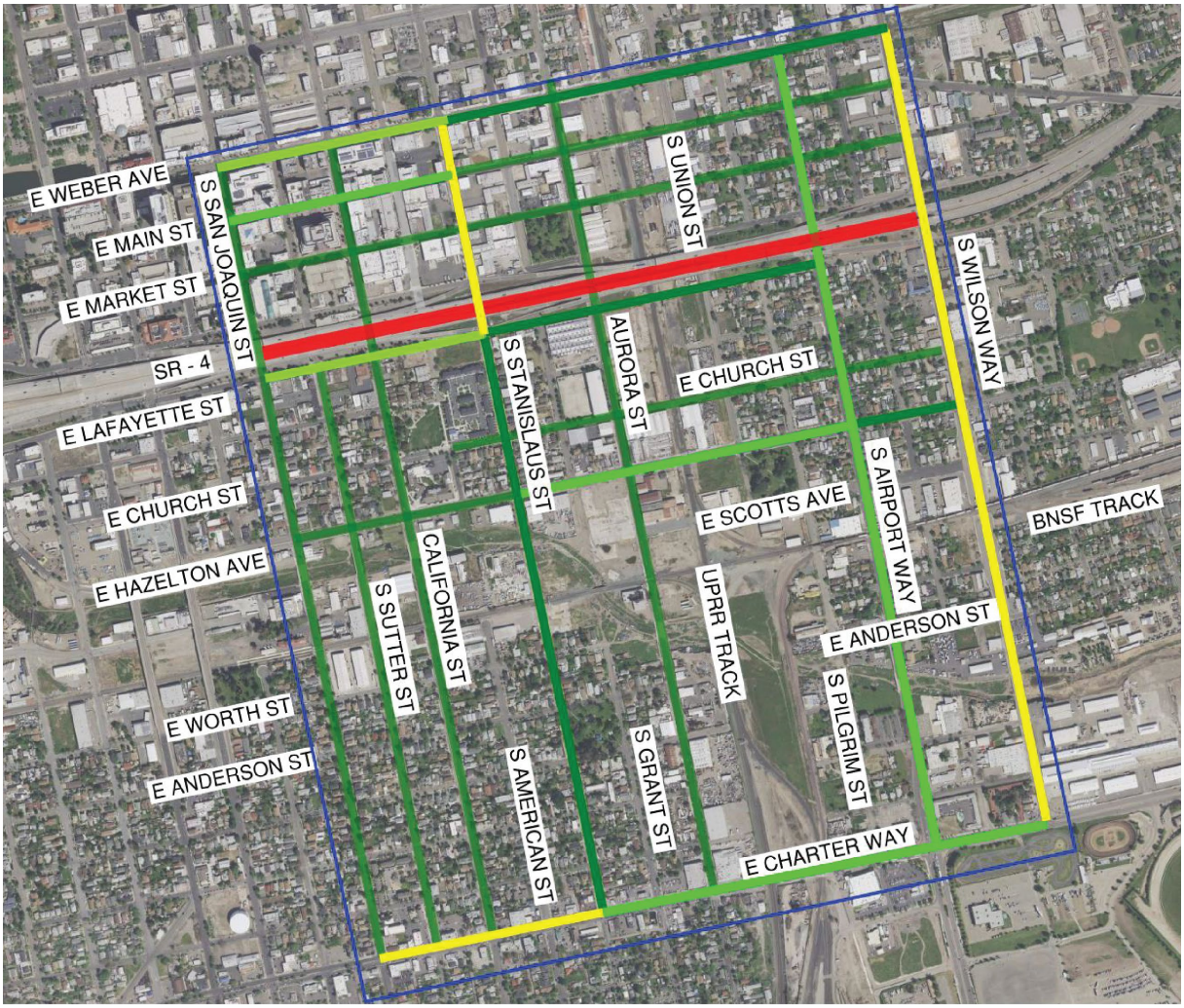
ROADWAY SEGMENTS

Similar to No Project Future Year (2045) conditions, with the exception of SR 4 (Crosstown Freeway), all of the roadway levels of service in the transportation RSA perform at LOS E or better (acceptable per the RCMP). The resulting v/c ratios for roadways in morning peak hour for proposed Project Future Year (2045) condition are summarized in Table 3.15-25 and shown in Figure 3.15-10.

Table 3.15-21: Proposed Project Future Year (2045) AM Roadway V/C Ratio and LOS

Road	Location	Roadway Classification	V/C Ratio	LOS
East Webber Ave	Between South San Joaquin Street and South Stanislaus Street	Collector	0.32	B
East Main Street	Between South San Joaquin Street and South Stanislaus Street	Arterial	0.34	B
SR 4	Between South San Joaquin Street and South Wilson Way	Freeway	1.14	**F**
East Lafayette Street	Between South San Joaquin Street and South ~~Aurora~~ Stanislaus Street	Local	0.47	B
East Hazelton Avenue	Between South Stanislaus Street and South Airport Way	Arterial	0.36	B
East Charter Way	Between South San Joaquin Street and South Stanislaus Street	Arterial	0.59	C
East Charter Way	Between South Stanislaus Street and South Wilson Way	Arterial	0.50	B
South Stanislaus Street	North of ~~SR 4~~ East Lafayette Street	Collector ~~Local~~	0.63 ~~0.91~~	C ~~E~~
South Airport Way	Between East Weber Avenue and East Lafayette Street	Arterial	0.40	B
South Airport Way	Between East Lafayette Street and East ~~Charter Way~~ Hazelton Avenue	Arterial	0.44	B
South Airport Way	Between East Hazelton Avenue and East Charter Way	Arterial	0.41	B
South Wilson Way	Between East Weber Avenue and East Church Street	Arterial	0.58	C
South Wilson Way	Between East Church Street and East Church Street	Arterial	0.56	C
All other Roadways	-	-	<0.30	A

Figure 3.15-9: Proposed Project Future Year (2045) Condition V/C Ratio and LOS, AM Peak Hour



PROPOSED PROJECT FUTURE YEAR (2045) CONDITION V/C RATIO AND LOS, AM PEAK HOUR

DATA SOURCE: Google Earth, 2020

- Traffic Study Area
- V/C Ratio < 0.30 (LOS A)
- V/C Ratio 0.31 to 0.50 (LOS B)
- V/C Ratio 0.51 to 0.70 (LOS C)
- V/C Ratio 0.71 to 0.84 (LOS D)
- V/C Ratio 0.85 to 1.00 (LOS E)
- V/C Ratio > 1.00 (LOS F)

N

0 0.125 0.25 Miles

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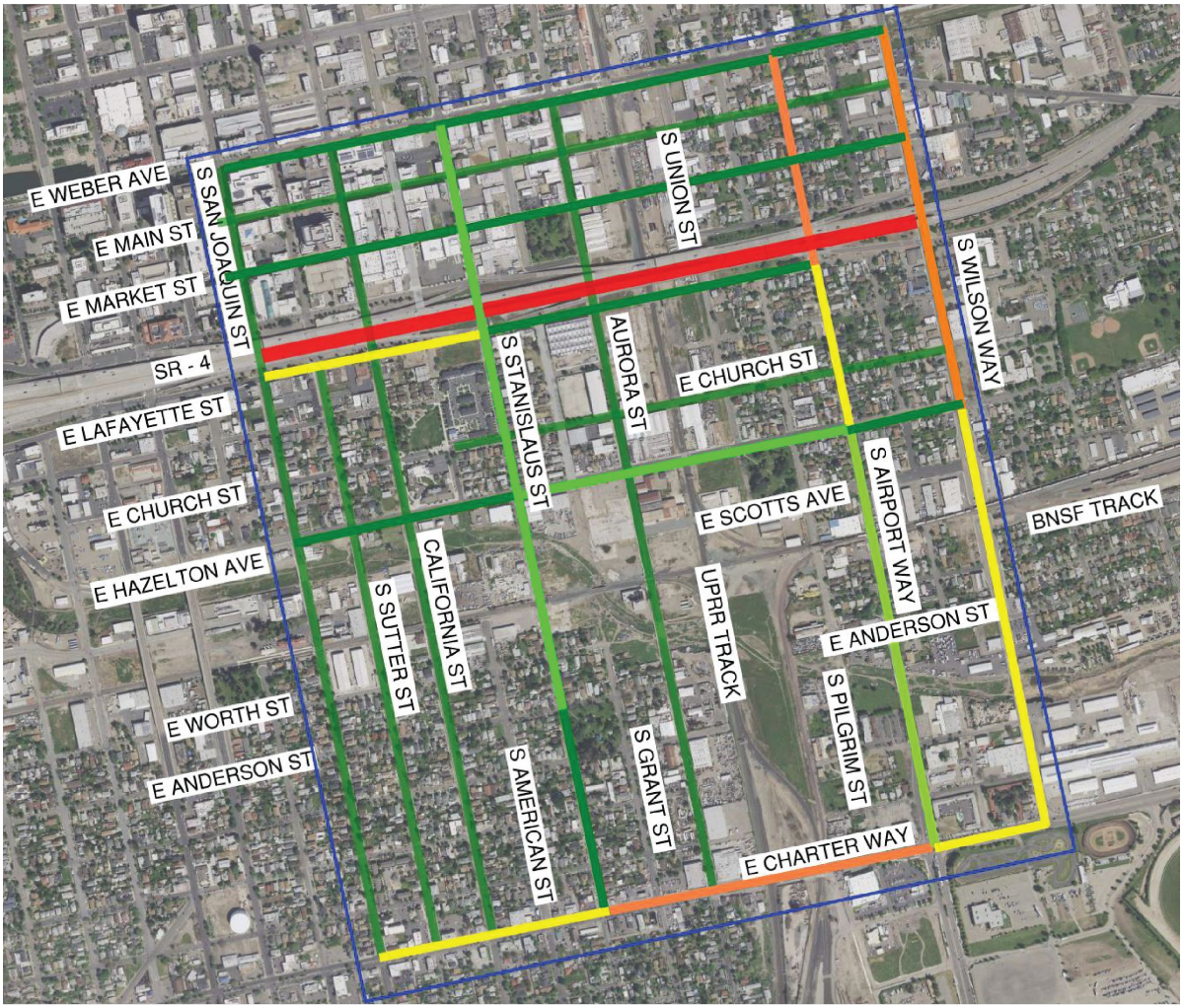
The resulting v/c ratios for roadways in afternoon peak hour is summarized in Table 3.15-22 and shown in Figure 3.15-10.

Table 3.15-22. Proposed Project Future Year (2045) PM Roadway V/C Ratio and LOS

Road	Location	Roadway Classification	V/C Ratio	LOS
SR 4	Between South San Joaquin Street and South Wilson Way	Freeway	1.1	**F**
East Lafayette Street	Between South San Joaquin Street and South ~~Aurora~~ Stanislaus Street	Local	0.63	C
East Hazelton Avenue	Between South Stanislaus Street and South Airport Way	Arterial	0.51	B
East Charter Way	Between South San Joaquin Street and South Aurora Street	Arterial	0.69	C
East Charter Way	Between Aurora Street and South Airport Way	Arterial	0.8	D
East Charter Way	Between South Airport Way and South Wilson Way	Arterial	0.63	C
South Stanislaus Street	North of ~~SR4~~ East Hazelton Avenue	Collector ~~Local~~	0.39 ~~56~~	B ~~C~~
South Stanislaus Street	Between ~~SR4~~ East Hazelton Avenue and East Anderson Street	Local	0.44	B
South Airport Way	Between East Weber Avenue and East Lafayette Street	Arterial	0.81	D
South Airport Way	Between East Lafayette Street and East Hazelton ~~Street~~ Avenue	Arterial	0.67	C
South Airport Way	Between East Hazelton ~~Street~~ Avenue and East Charter Way	Arterial	0.46	B
South Wilson Way	Between East Weber Avenue and East Hazelton ~~Street~~ Avenue	Arterial	0.81	D
South Wilson Way	Between East Hazelton ~~Street~~ Avenue and East Charter Way	Arterial	0.62	C
All other Roadways	-	-	<0.30	A

Figure 3.15-10: Proposed Project Future Year (2045) Condition V/C Ratio and LOS, PM Peak Hour



PROPOSED PROJECT FUTURE YEAR (2045) CONDITION V/C RATIO AND LOS, PM PEAK HOUR

DATA SOURCE: Google Earth, 2020

Traffic Study Area
V/C Ratio < 0.30 (LOS A)
V/C Ratio 0.31 to 0.50 (LOS B)
V/C Ratio 0.51 to 0.70 (LOS C)
V/C Ratio 0.71 to 0.84 (LOS D)
V/C Ratio 0.85 to 1.00 (LOS E)
V/C Ratio > 1.00 (LOS F)

0 0.125 0.25 Miles

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TRANSIT

The proposed Project would have no impacts on existing transit routes except on Charter Way (Route 49). In the long term, Route 49 will remain on Charter Way. During construction, however, the proposed Project will construct two new bridges across Charter Way and will demolish a portion of an existing bridge. Temporary closures, detours, or narrowing to two lanes on Charter Way may be necessary during construction. Measure BMP TRA-6, which stipulates the protection of freight and passenger rail during construction, would ensure that any structural damage to freight or public railways that may occur during the construction period would be repaired and any damaged sections be returned to their original structural condition. Measure BMP TRA-6 would reduce potential short-term impacts related to transit resources. After the completion of the proposed Project, transit operations would be improved from the existing condition and no long-term impacts would occur.

PEDESTRIAN

During construction, impacts may occur to existing pedestrian access within the transportation RSA. However, with the implementation of Measure BMP TRA-4, which specifies that a Construction Management Plan (CMP) address maintenance of pedestrian access during the construction period, short-term impacts related to pedestrian access would be considered less than significant and no mitigation is required.

The proposed Project would construct roadway-rail at-grade crossing infrastructure and sidewalk improvements on Weber Avenue, Main Street, Market Street, Hazelton Avenue, Scotts Avenue, and Charter Way, including ADA compliant ramps. After the completion of the proposed Project, safer pedestrian access would be provided within the transportation RSA compared to the existing condition and no long-term impacts would occur.

BICYCLE

There are no existing bicycle facilities in the Traffic Study Area. During construction, impacts may occur to existing bicycle access within the transportation RSA. However, with the implementation of Measure BMP TRA-5, which specifies that a Construction Management Plan (CMP) address the maintenance of bicycle and pedestrian access during construction, short-term impacts related to bicycle access would be considered less than significant and no mitigation is required.

As shown in Figure 3.15-8, bicycle facilities in the Traffic Study Area are proposed on East Weber Avenue, East Main Street, East Market Street, East Hazelton Avenue, and South Aurora Street. However, the proposed Project would not preclude implementation of the future bicycle facilities identified. Therefore, long-term impacts are considered less than significant, and no mitigation is required.

PARKING AND LOADING

During construction, impacts may occur to existing parking and loading within the transportation RSA. However, with the implementation of Measure BMP TRA-3, which specifies that adequate off-street parking for all construction-related vehicles be provided throughout the construction period, impacts to public on-street parking areas would be minimized. Therefore, with the implementation of Measure BMP TRA-3, short-term impacts related to parking and loading would be considered less than significant, and no mitigation is required.

Long-term parking impacts due to the proposed Project in the transportation RSA are shown in Table 3.15-23 and summarized below:

- No parking spaces would be removed on Weber Avenue, Main Street, Market Street, and Scotts Avenue.
- The rail crossing at Church Street is proposed to be closed and existing on-street parking to be removed. As the businesses along Church Street from the proposed tracks to Union Street would be closed, there would be minimal parking impacts.
- There is existing parking on Hazelton Avenue near Union Street and Aurora Street. The proposed Project design lengthens the existing median at Hazelton Avenue and therefore reduces the available parking spaces. The businesses adjacent to the parking spaces would be acquired by the proposed Project; and thus, there would be minimal impacts to needed parking at this location.

Table 3.15-23: Parking Impacts in the Proposed Project Future Year (2045)

Street	Limits to	Limits From	On-Street Parking – Existing	On-Street Parking – Proposed Project (2045)	Jurisdiction
E Weber Ave	Aurora St	S Union St	Yes	Yes	Public
E Main St	Aurora St	S Union St	Yes	Yes	Public
E Market St	Aurora St	S Union St	Yes	Yes	Public
E Lafayette St	S Grant St	S Pilgrim St	No	No (street to be closed)	Public
E Sonora St	UP Tracks	S Union St	Yes	No	Private west of tracks
E Church St	Aurora St	S Union St	Yes	No	Private west of tracks
E Hazelton Ave	Aurora St	S Pilgrim St	Yes	No	Public
E Scotts Ave	Aurora St	S Pilgrim St	Yes	Yes	Public
E Charter Way	Aurora St	S Pilgrim St	No	No	Public

Based on the information, above, long-term impacts would be minimal and considered less than significant, and no mitigation is required.

EMERGENCY RESPONSE

The Traffic Study Area is served by two fire stations of the City of Stockton Fire Department. Fire Station 3 (1116 E. First Street) is the fire station nearest the proposed Project and accesses the Traffic Study Area via South Airport Way. Fire Station 2 (110 W. Sonora Street) currently uses SR 4 and East Lafayette Street as primary routes for emergency response.

Roads that would require temporary closures during construction of the at-grade crossings and/or grade separations include:

- East Weber Avenue;
- East Main Street;
- East Market Street;
- East Hazelton Avenue;
- East Scotts Avenue; and
- East Charter Way

During construction, the contractor would likely start at one end of the proposed Project and work in one direction, closing one street at a time for the minimal amount of time possible to allow for safe working conditions and to minimize traffic interruptions. If the work is along existing tracks and work is minor, then a full roadway closure could potentially last one week in duration. Alternatively, depending on the extent of the work, work could also be accomplished with lane closures and flagging. Restrictions would be placed on the contractor to close every other crossing and no detours would be allowed to overlap. Further, Variable Message Signs would be required to be posted two weeks in advance of closures and through the duration of closure.

Given the proposed closure of East Lafayette Street and East Church Street to through traffic, alternative routes for Fire Station 2 emergency response were evaluated to identify routes that could provide similar response times in the event of an emergency. Based on this high-level review, two routes were identified that could provide response times similar to the use of East Lafayette Street. These are East Hazelton Avenue and SR 4.

Fire Station 3 response times would not be affected by the closure of East Lafayette Street and East Church Street, as Station 3's primary response route is South Airport Way, which is east of the proposed closure.

In order to further reduce impacts to traffic, emergency response and emergency evacuation routes would be maintained, and alternate emergency routes would be identified through coordination with appropriate agencies and local departments. The plan would include alternative routing plans and methods, and details for early public outreach. Further, with implementation of an approved TMP,

described in Measure BMP TRA-7, short-term impacts on an emergency response plan or emergency evacuation plan are considered less than significant, and no mitigation is required.

East Lafayette Street and East Church Street will be permanently closed as part of the proposed Project. East Lafayette Street would be closed due to the multiple at-grade rail crossings of the at-grade main tracks and wye connection tracks (that is, four crossings within two blocks).

East Church Street would be closed because it would not meet the UP/BNSF required minimum flyover vertical clearance of 16.5 feet for a vehicle crossing under the rail structure, and would not be consistent with the American Association of State and Highway Transportation Officials' design criteria for change in grade for a local roadway.

However, with the implementation of Measure BMP TRA-8, SJRRC will ensure that all proposed Project road closures will be formalized as part of the California Public Utilities Commission (CPUC) General Order (GO) 88B Diagnostic review process. The CPUC GO 88B Diagnostic review process will include the evaluation of circulation for all modes of travel in coordination with the City of Stockton, CPUC, and UPRR, including pedestrians, bicycles, automobiles, and trucks. In addition, after the completion of the proposed Project, overall transportation, circulation, and access would be improved within the transportation RSA, when compared to the existing condition. Therefore, with the implementation of Measure BMP TRA-8, no long-term impacts would be considered less than significant, and no mitigation is required.

TRUCKS

During construction, truck routes on the State Highway system and major arterial streets within the City would be used heavily, including portions of East Charter Way, South Airport Way, East Hazelton Avenue, East Lafayette Street, East Market Street, East Weber Street, South Aurora Street, South Union Street, South Wilson Way, and South Stanislaus Street. With the implementation of Measure BMP TRA-1, which requires a photographic survey documenting the condition of the public roadways along truck routes providing access to the proposed Project site, temporary increases in truck traffic along these routes would be reduced, short-term impacts related to truck traffic would be considered less than significant, and no mitigation is required.

Operation of the proposed Project would not contribute to truck traffic within the transportation RSA. Therefore, no long-term impacts related to truck traffic are anticipated.

c) Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Impact. The proposed Project is being developed using UP, BNSF, and City of Stockton railroad design standards for safe horizontal and vertical engineering elements, including track alignment, elevations, clearances, and curvature. Automobiles, trucks, buses, and other anticipated roadway traffic would have sufficient clearance with the East Hazelton Avenue, East Scotts Avenue, and East Charter Way underpasses for safe passage. Therefore, the proposed Project would not increase

hazards due to geometric design or incompatible uses, and no short-term or long-term impacts are anticipated.

d) Would the project result in inadequate emergency access?

Less than Significant impact. In order to reduce emergency response impacts during construction activities, all emergency response and emergency evacuation routes would be maintained, and alternate emergency routes would be identified through coordination with appropriate agencies and local departments. With implementation of an approved TMP (Measure BMP TRA-7), alternative routing plans and methods, and details for early public outreach would be provided before and throughout construction. To further limit temporary impacts to traffic circulation during construction, the contractor would likely start at one end of the proposed Project and work in one direction, closing one street at a time for the minimal amount of time possible to allow for safe working conditions and to minimize traffic interruptions. If the work is along existing tracks and work is minor, then a full roadway closure could potentially last one week in duration.

Alternatively, depending on the extent of the work, work could also be accomplished with lane closures and flagging. Restrictions would be placed on the contractor to close every other crossing and no detours would be allowed to overlap. Further, Variable Message Signs would be required to be posted two weeks in advance of closures and through the duration of closure. Therefore, with the implementation of Measure BMP TRA-7, short-term impacts would be considered less than significant, and no mitigation is required.

East Lafayette Street and East Church Street would be permanently closed as part of the proposed Project. East Lafayette Street would be closed because of the multiple at-grade rail crossings of the at-grade main tracks and wye connection tracks (that is, four crossings within two blocks).

East Church Street would be closed because it would not meet the required UP/BNSF minimum flyover vertical clearance of 16.5 feet for a vehicle crossing under the rail structure, and would not be consistent with the American Association of State and Highway Transportation Officials' design criteria for change in grade for a local roadway. However, with the implementation of Measure BMP TRA-8, which will require the CPUC GO 88B Diagnostic review process and after the completion of the proposed Project, overall transportation, circulation, and access would be improved within the transportation RSA, when compared to the existing condition, no long-term impacts would be considered less than significant, and no mitigation is required.

~~After the completion of the proposed Project, overall transportation, circulation, and access would be improved within the transportation RSA, when compared to the existing condition. Therefore, long-term impacts are considered less than significant, and no mitigation is required.~~

3.15.6 BEST MANAGEMENT PRACTICES AND/OR MITIGATION MEASURES

The following transportation BMP measures would be applied for the proposed Project.

BMP TRA-1: Protection of Public Roadways during Construction. Prior to construction, SJRRC will ensure that the contractor will provide a photographic survey

documenting the condition of the public roadways along truck routes providing access to the proposed Project site to restore such routes utilized by the Project during construction to their previous condition.

BMP TRA-2: **Construction Transportation Plan.** Prior to construction, SJRRC will ensure that the contractor will prepare a detailed construction transportation plan for the purpose of minimizing the impact of construction and construction traffic on adjoining and nearby roadways in close consultation with the local jurisdiction having authority over the site.

BMP TRA-3: **Off-Street Parking for Construction-Related Vehicles.** During construction, SJRRC will ensure that the contractor will identify adequate off-street parking for all construction-related vehicles throughout the construction period to minimize impacts on public on-street parking areas.

BMP TRA-4: **Maintenance of Pedestrian Access.** Prior to construction, SJRRC will ensure that the contractor will prepare specific Construction Management Plans (CMPs) to address maintenance of pedestrian access during the construction period.

BMP TRA-5: **Maintenance of Bicycle Access.** Prior to construction, SJRRC will ensure that the contractor would prepare specific CMPs to address maintenance of bicycle and access during the construction period.

BMP TRA-6: **Protection of Freight and Passenger Rail During Construction.** During construction, SJRRC will ensure that the contractor will repair any structural damage to freight or public railways that may occur during the construction period and return any damaged sections to their original structural condition.

BMP TRA-7: **Traffic Management Plan.** During final design, SJRRC will ensure that a Project ~~Traffic~~ Transportation Management Plan (TMP) will be drafted, approved, and filed with the City of Stockton Engineering and Transportation Department, or other agency with jurisdiction over the road, prior to any road closures. SJRRC will also collaborate regularly with the San Joaquin Regional Transit Department during final design to coordinate elements of the TMP. The plan would include alternative routing plans and methods and details for early public outreach.

BMP TRA-8: **Road Closure Formalization Process.** During final design, SJRRC will ensure that all proposed Project road closures will be formalized as part of the California Public Utilities Commission (CPUC) General Order (GO) 88B Diagnostic review process. The CPUC GO 88B Diagnostic review process will include the evaluation of circulation for all modes of travel in coordination with the City of Stockton, CPUC, and UPRR, including pedestrians, bicycles, automobiles, and trucks.

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3.16 Tribal Cultural Resources

3.16.1 INTRODUCTION

This section describes the regulatory setting and affected environment related to tribal cultural resources, evaluates the potential effects on these resources by the proposed Project, and identifies proposed mitigation measures, as applicable. Tribal cultural resources consist of sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe.

For information on cultural resources that are not explicitly tribal cultural resources, see Section 3.4, *Cultural Resources*.

3.16.2. REGULATORY SETTING

The primary applicable federal and state laws and regulations protecting tribal cultural resources are CEQA and California PRC Sections 5024.1 and 21084.1. These and other federal and state laws and regulations that pertain to tribal cultural resources are described in Section 3.4, *Cultural Resources*, as are regional and local planning ordinances and guidance. AB 52, which created a new category of cultural resources under CEQA, Tribal Cultural Resources, is described below.

California State Assembly Bill 52

AB 52 of 2014 requires the lead agency of a proposed project to consult with any California Native American tribes affiliated with the geographic area within which the project is located. The legislation creates a broad new category of environmental resources, “Tribal Cultural Resources,” which must be considered under CEQA. AB 52 creates a distinct category for tribal cultural resources, requiring a lead agency to not only consider the resource’s scientific and historical value, but also whether it is culturally important to a California Native American tribe. AB 52 defines tribal cultural resources as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe” that are included in or determined to be eligible for inclusion in the CRHR or the local register of historical resources.

AB 52 also sets up an expanded consultation process. Lead agencies are required to provide notice of proposed projects to any tribe traditionally and culturally affiliated with the geographic area. If, within 30 days, a tribe requests consultation, the consultation process must begin before the lead agency can release a draft environmental document. Consultation with the tribe may include discussion of the type of review necessary, the significance of tribal cultural resources, the significance of the project’s impacts on the tribal cultural resources, and alternatives and mitigation measures recommended by the tribe. The consultation process will be deemed concluded when either (a) the parties agree to mitigation measures; or (b) any party concludes, after a good faith effort, that an agreement cannot be reached. Any mitigation measures agreed to by the tribe and lead agency must be recommended for inclusion in the environmental document. If a tribe does not request consultation, or otherwise assist in identifying mitigation measures during the

consultation process, a lead agency may still consider mitigation measures if the agency determines that a project will cause a substantial adverse change to a tribal cultural resource.

3.16.2 METHODS FOR EVALUATING IMPACTS

This section identifies the overall framework for conducting the tribal cultural resources assessment for the proposed Project, including outreach and consultation efforts, delineation of the tribal cultural RSA (or Area of Potential Affect [APE]), tribal cultural resources identification procedures, assessment of impacts, and consideration of mitigation measures. For additional information on broader cultural resources identification and impact assessment, see Section 3.4, *Cultural Resources.*

Definition of Resource Study Area/Area of Potential Effect

As defined in Section 3.0~~1~~, *Introduction*, RSAs are the geographic boundaries within which the environmental investigations specific to each resource topic were conducted. The tribal cultural resources RSA is the same as the cultural resources RSA; both are referred to as the Area of Potential Effects (APE). A detailed definition of the proposed Project APE is provided in Section 3.4, *Cultural Resources*. The APE is shown in Figure 3.4-1, in Section 3.4, *Cultural Resources*.

Methods for Data Collection and Analysis

Records Search and Background Research

A detailed discussion of the records search and background research done for the proposed Project is included under Methods for Data and Analysis in Section 3.4, *Cultural Resources*.

Tribal Consultation and Coordination

A Sacred Lands File search was requested from the Native American Heritage Commission (NAHC) on May 8, 2020, to identify sensitive or sacred Native American resources that could be affected by the proposed Project. The NAHC responded on May 12, 2020 and reported that the search of the Sacred Lands File revealed positive results for the relevant area. No additional information on the location or nature of the positive finding was provided; however, the NAHC recommended that the North Valley Yokuts Tribe be contacted for more information. Because the search does not include an exhaustive list of Native American tribal cultural resources, the NAHC provided a list of two Native American tribal organizations who may have direct knowledge of tribal cultural resources in or near the APE:

- North Valley Yokuts Tribe – Katherine Perez
- The Confederated Villages of Lisjan – Corrina Gould

Outreach letters were sent to tribal governments providing information about the proposed Project and seeking input from the tribal community. AB 52 consultation was conducted by SJRRC in conjunction with Section 106 consultation efforts lead by CHSRA. Formal government-to-government consultation with tribal governments was initiated in November 2020. A summary of

SJRRC's AB 52 consultation (done in conjunction with Section 106 consultation) efforts to date is provided in Table 3.16-1.

Representatives of SJRRC and CHRSA met with a representative of North Valley Yokuts Tribe on January 28, 2021. Ms. Perez, the representative for the North Valley Yokuts Tribe, stated that, while there are no known resources within the Project limits, there are several known Native American burials in the proposed Project vicinity. The historic-era alteration of the Mormon Slough was also a concern, since it may now be closer to, or intersect, village sites in the area.

As a result, Ms. Perez requested that measures be implemented to ensure proper treatment of any inadvertent discoveries. These would include archaeological and tribal cultural resource training for all personnel working on the Project, steps to be implemented should inadvertent discoveries be encountered, and archaeological and Native American monitors present during all ground disturbing activities. These measures have been agreed to (see Measures BMP CUL-1 and BMP CUL-2 in Section 3.4, *Cultural Resources*).

Representatives of SJRRC and CHRSA also met with a representative of the Confederated Villages of Lisjan on February 5, 2021. Ms. Gould, the representative for the Confederated Villages of Lisian tribe, stated that their main concern was related to the depth of excavation in the Mormon Slough area. SJRRC indicated during the consultation meeting that certain design features can be altered to help span the slough, if feasible. Ms. Gould also stated that there is a mound area within the proposed Project vicinity. This area may have been impacted by previous construction activities, but it is still of high concern. An email containing proposed Project construction figures was sent to Ms. Gould on February 9, 2021, which also requested that Ms. Gould send any additional questions or comments. Ms. Gould responded in an email on February 24, 2021, stating that the Confederated Villages of Lisian did not have any additional questions or comments at the time.

On April 29, 2021, SJRRC submitted a letter via email and certified mail to Mrs. Perez and Ms. Gould requesting review and concurrence of the Project's proposed cultural resource measures. Ms. Perez responded via telephone indicating that the North Valley Yokuts Tribe concurred with the proposed cultural resource measures.

A follow-up email was sent to Ms. Gould on May 12, 2021, to ensure that the April 24, 2021 letter via email and certified mail was received. Ms. Gould replied to the email requesting modification to the measures to include both tribes for concurrent monitoring as opposed to alternating between tribes. On May 17, 2021, SJRRC agreed to Ms. Gould's request to modify the language and updated measures (Measures BMP CUL-1 and BMP CUL-2, provided in Section 3.4, Cultural Resources) were sent to Ms. Gould for concurrence. A follow-up call was placed on May 19, 2021. A second email with updated language attached, was also sent. On May 21, 2021, a follow-up phone call was made to Ms. Gold, as well as a second email with the updated language. On May 26, 2021, Ms. Gould replied via email stating that the Confederated Villages of Lisjan Tribe concurred with the updated measures proposed.

Table 3.16-1: Summary of AB 52 Tribal Consultation Efforts by SJRRC

Consulting Party	Response
Katherine Perez North Valley Yokuts Tribe	**November 9, 2020:** Request to initiate AB 52 consultation sent by certified mail. **December 21, 2020:** Request to initiate Section 106 consultation sent by certified mail. **November 22, 2020:** A letter was received from Chairperson Perez initiating consultation. **January 28, 2021:** A consultation call was held between Ms. Perez, CHSRA, and the SJJRC. Ms. Perez stated that, while there are no known resources within the Project limits, there are several known Native American burials in the Project vicinity. Historic-era construction activities in the area have disturbed several burials, which were simply pushed aside and not properly recovered and reinterred. The historic-era alteration of the Mormon Slough was also a concern, since it may now be closer to, or intersect, village sites within the area. Ms. Perez requested that certain measures be implemented to ensure proper treatment of any inadvertent discoveries. These include archaeological and tribal cultural resource training for all personnel working on the Project, outlining steps to be implemented should inadvertent discoveries be encountered, and archaeological and Native American monitoring during all ground disturbing activities. A copy of the cultural resource assessment will be provided to Ms. Perez for review, once the draft is finalized. **February 9, 2021:** An email containing Project construction figures was sent to Ms. Perez. It was requested that Ms. Perez send any additional questions or comments. **February 18, 2021:** Ms. Perez replied, stating that they do not have any additional information at this time. She reiterated that, as explained in the consultation meeting, the Tribe feels that the proposed project will yield more inadvertent burials then what is already known and it is their strong recommendation that a tribal monitor from the North Valley Yokuts Tribe be present during ground disturbance. **April 29, 2021:** A letter providing the proposed measures was sent to Ms. Perez via certified mail and email, requesting review and concurrence. **May 11, 2021:** Ms. Perez called Ms. Denniston stating that the North Valley Yokuts Tribe concurs with the measures as described in the April 29, 2021, letter. A follow up email stating concurrence was sent by Ms. Perez to Ms. Denniston.
	November 9, 2020: Request to initiate AB 52 consultation sent by certified mail. **December 21, 2020:** Request to initiate Section 106 consultation sent by certified mail. **December 16, 2020:** A letter was received from Chairperson Gould initiating consultation.

Consulting Party	Response
Corrina Gould The Confederated Villages of Lisjan	**February 5, 2021:** A consultation call was held between the Confederated Villages of Lisjan, CHSRA, and the SJJRC. Ms. Gould stated that the main concern of the Lisian is the Mormon Slough area. She requested the depth of fill in the area and how design features would impact the area. Mr. Higgins stated that certain feature designs can be altered to help span the slough. Ms. Gould stated that there is a mound area within the project vicinity. The area may have been impacted by previous construction activities, but it is still of high concern. Ms. Gould was concerned about the overall Project footprint in the area and requested the depth of construction activities at the slough area. Ms. Gould stated that she would look over visuals and provide any additional comments soon. **February 9, 2021:** An email containing Project construction figures was sent to Ms. Gould. It was requested that Ms. Gould send any additional questions or comments. **February 24, 2021:** Ms. Gould emailed stating that the Tribe does not have any additional questions or comments at this time. **April 29, 2021:** A letter providing the proposed measures was sent to Ms. Gould via certified mail and email, requesting review and concurrence. **May 12, 2021:** A follow-up email was sent to Ms. Gould to ensure that she received the letter via certified mail and email. Her concurrence was again requested. Ms. Gould replied to the email requesting the modification of the measures to include both tribes for concurrent monitoring as opposed to alternating between tribes. **May 17, 2021:** The SJRRC agreed to modify the language to include a monitor from each Tribe during ground disturbing activities. A track changes document of the updated language was included. Her concurrence of the updated measures was requested. **May 19, 2021:** A follow-up phone call was made to Ms. Gould to ensure that she received the updated measures via email. **May 21, 2021:** A follow-up phone call was made to Ms. Gould to ensure that she received the updated measures. A second email with the updated language attached, was also sent. **May 26, 2021:** Ms. Gould replied via email, stating that the Confederated Villages of Lisjan Tribe concurred with the updated measures proposed.

Based on the consultation efforts above, as of May 26, 2021, AB 52 consultation was deemed complete by both tribes. A copy of all AB 52 consultation documentation is included in Appendix F, *AB 52 Consultation Documentation*.

Field Survey and Results

A detailed discussion of the cultural resources field surveys and results can be found in Section 3.4, *Cultural Resources*.

Methods for Determining Significance under CEQA

Based on Appendix G of the CEQA Guidelines, the proposed Project would result in a significant impact on tribal cultural resources if it would result in any of the following:

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe and that is:

   i. Listed or eligible for listing in the California Register of Historic Resources, or in the local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

   ii. 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?

3.16.3 AFFECTED ENVIRONMENT

Description of Built Historic Resources within the APE

A detailed discussion of the built historic resources within the APE is provided in Section 3.4, *Cultural Resources*.

Description of Archaeological Resources within or Adjacent to the APE

A detailed description of archaeological resources within and adjacent to the APE is provided in Section 3.4, *Cultural Resources*.

3.16.4 ENVIRONMENTAL ANALYSIS

This section describes the potential impacts to tribal cultural resources from the construction and operation of the proposed Project.

CEQA Significance Findings

An environmental analysis of each threshold identified is provided, below:

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe and that is:

i. **Listed or eligible for listing in the California Register of Historic Resources, or in the local register of historical resources as defined in Public Resources Code Section 5020.1(k).**

Less than Significant. As previously discussed under Environmental Analysis in Section 3.4, *Cultural Resources*, the proposed Project is located within an area that has been subject to disruption by railroad and commercial development activities. As a result of previous development activities, archaeological resources and tribal cultural resources that may have existed at the ground surface have likely been displaced or destroyed. There is, however, the possibility that ground-disturbing activities could impact previously undiscovered subsurface prehistoric archaeological resources or tribal cultural resources. However, with the implementation of Measures BMP CUL-1 and BMP CUL-2, impacts to archaeological and tribal archaeological resources would be considered less than significant, and no mitigation is required.

ii. **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.**

Less than Significant. As previously described, a tribal cultural resource is defined as a site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American tribe that is either included or eligible for inclusion in the CRHR, or included in a local register of historical resources, or if SJRRC, acting as the lead agency, supported by substantial evidence, chooses at its discretion to treat the resource as a tribal cultural resource. Based on the background research, field efforts, and SJRRC's consultation with the North Valley Yokuts Tribe and the Confederated Villages of Lisian, no known tribal cultural resources were identified in the project area. However, project construction would involve ground disturbing activities that may result in the discovery or damage of as-yet undiscovered tribal cultural resources. However, with the implementation of Measures BMP CUL-1 through BMP CUL-3, described in Section 3.4, *Cultural Resources*, impacts would be considered less than significant, and no mitigation is required.

3.16.3 BEST MANAGEMENT PRACTICES AND/OR MITIGATION MEASURES

Specific BMP measures to address impacts to tribal cultural resources are identified under Best Management Practices and/or Mitigation Measures in Section 3.4, *Cultural Resources*.

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3.17 Utilities and Service Systems

3.17.1 INTRODUCTION

This section describes the potential effects of the proposed Project's construction and operation on utilities and service systems, including water, wastewater, stormwater, solid waste, electricity and natural gas, and telecommunications.

3.17.2 REGULATORY SETTING

This section identifies the applicable federal, state, and local laws, regulations, and orders that are relevant to the analysis of utilities and service systems in this EIR. It also states whether the proposed Project complies with the regulations described herein.

Federal Plans, Policies, and Regulations

Clean Water Act

The CWA of 1977 is administered by the EPA to restore and maintain the chemical, physical, and biological integrity of water bodies in the U.S. There are regulations and policies within CWA to reduce direct pollutant discharges into waterways, provide funding for wastewater treatment facilities, and manage runoff.

Natural Gas Act of 1938

The Natural Gas Act of 1938 regulates the interstate activities of electric and natural gas industries. The Act allows federal regulators to set prices for gas sold in interstate commerce. In return, the regulators are allowed exclusive rights to transport the gas.

Energy Policy Act of 1992

The Energy Policy Act of 1992 aims to reduce U.S. dependence on petroleum and improve air quality by addressing all aspects of energy supply and demand, including fuels, renewable energy, and energy efficiency. It encourages the use of alternative fuels through regulatory and voluntary activities, as well as any other approach carried out by the U.S. Department of Energy.

Energy Policy Act of 2005

The Energy Policy Act of 2005 calls for the development of grant programs, demonstration and testing initiatives, and tax incentives that promote alternative fuels and advanced vehicles use. Additionally, this Act amends the regulations for federal, state, and alternative fuel provider fleets that were established by the Energy Policy Act of 1992.

Telecommunications Act of 1996

The Telecommunications Act of 1996 was created by the Federal Communications Commission to allow any entity to enter the communications business, and to allow any communications business to compete in any communications market.

State Plans, Policies, and Regulations

California Urban Water Management Planning Act (Division 6 Part 2.6 of the Water Code §§10610 - 10656)

The California Urban Water Management Planning Act is part of the California Water Code. It mandates that urban water suppliers in California adopt and submit an Urban Water Management Plan to the state Department of Water Resources and update it every five years. It must include a water shortage contingency plan and drought risk assessment methodology that compares the existing and available water supplies with projected future demands. Water suppliers must include a plan for a dry period lasting five consecutive years.

Water Conservation Act (SB X7-7)

The Water Conservation Act of 2009 requires all water suppliers to increase efficiency in water use.

California Integrated Waste Management Act (AB 939)

The California Integrated Waste Management Act requires local jurisdictions to adopt an Integrated Waste Management Plan that addresses waste disposal, management, source reduction, and recycling and ultimately leads to a reduction of waste. The California Department of Resources Recycling and Recovery (CalRecycle) is the agency responsible for leading the initiative. Solid waste reduction would be part of the proposed Project construction plans.

California Government Code (Section 4216)

The California Government Code (Section 4216) mandates that any person must notify and coordinate with relevant stakeholders prior to construction activities that involve ground disturbance. Contractors are required to mark any area that is to be disturbed with paint and notify Underground Service Alert North (USA North), at least 2 days prior to the start of any digging activities. After receiving the notification, USA North would transmit the information regarding the construction to all participating members.

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

The California Green Building Standards Code (CALGreen) established sustainable building design standards for both residential and non-residential buildings in California. The CALGreen code intends to enhance building and structure design and construction using concepts that reduce a project's negative environmental impact. Sustainable construction practices are encouraged in the following areas:

- Planning and design;
- Energy efficiency;
- Water efficiency and conservation;
- Material conservation and resource efficiency; and
- Environmental quality.

Per CALGreen (Sections 4.408, 5.408, 301.1.1, and 301.3), permitted construction activities are to recycle and/or salvage and reuse at least 65 percent of the nonhazardous construction and demolition debris generated from Project construction.

Local Plans, Policies, and Regulations

San Joaquin County 2035 General Plan

San Joaquin County adopted the *San Joaquin County General Plan* in December 2016. The General Plan provides a comprehensive framework to address the current issues in the County, the vision for the future, and strategies to achieve such visions. The following San Joaquin County 2035 General Plan goals, objectives, policies, or implementing actions are relevant to the proposed Project:

- **Objective IS-1.8. Infrastructure Financing, Design, and Construction.** The County shall require new development to fund the initial financing, design, and construction of required infrastructure facilities. All financing (including operation and maintenance) and improvement plans shall be subject to County review and approval.
- **Goal IS-2.** To ensure appropriate public utility agencies are in place for the long-term maintenance of infrastructure and provision of services.

Envision Stockton 2040 General Plan

The City of Stockton adopted the *Envision Stockton 2040 General Plan* on December 4, 2018. The General Plan provides a comprehensive, long-range statement of the jurisdiction's utilities and service systems for the coming decades. The plan is the government's primary tool to guide physical change within the city limits, and some cases beyond, in a sphere of influence where City services may someday be provided. The following Envision Stockton 2040 General Plan goals, objectives, policies, or implementing actions are relevant to the proposed Project:

- **Action LU-3.3B.** Pursue joint-use recreational facilities where possible, including on school grounds and utility easements.
- **Action LU-3.3E.** Require new development to improve utility easement property as usable public open space, where feasible.
- **Action LU-6.1D**. Require that all utility connections outside the city limits be for land uses that are consistent with the General Plan.

- **Action LU-6.2B.** Do not approve future annexations or City utility connections unless they are consistent with the overall goals and policies of the General Plan and do not adversely impact the City's fiscal viability, environmental resources, infrastructure and services, and quality of life.
- **Policy LU-6.3.** Ensure that all neighborhoods have access to well-maintained public facilities and utilities that meet community service needs.
- **Action LU-6.3C.** Coordinate, to the extent possible, upgrades and repairs to roadways with utility needs, infrastructure upgrades, and bicycle and pedestrian improvements.

Stockton Municipal Code

The following Stockton Municipal Codes are intended establish and maintain a program to reduce the amount of construction and demolition waste generated within the City that is disposed in landfills.

Chapter 8.28 Construction and Demolition Debris Waste Reduction

Section 8.28.050 Construction and Demolition Debris Collection

A. The authority to collect solid waste (including the collection of construction and demolition debris addressed in this chapter) is regulated by the City as prescribed in Sections 8.04.240 through 8.04.300. In general, only an industrial waste collector or a commercial recyclable material collector that has obtained a permit from the City may collect and transport construction and demolition debris from a project site to a disposal or processing facility.

B. A construction contractor, subcontractor, or landscape contractor may self-haul and recycle or dispose of debris from a construction, demolition, or landscaping site at which they are performing work, provided that they utilize their own personnel and equipment and transport debris while performing their own work. Any debris collected on site through general clean-up operations, whether periodically or at the completion of a project, may not be transported and disposed by a third party, unless that third party has secured the necessary solid waste hauling permit from the City (and is therefore registered as an industrial waste collector or a commercial recyclable material collector). The City will provide a list of all industrial waste collectors and commercial recyclable material collectors authorized to collect construction and demolition debris from project sites within the City when it issues the C&D permit packet for the Project. (Ord. 010-08 C.S. § 2, prior code § 7-084)

Chapter 13.36 Regulations and Procedures for the Removal of Overhead Utility Facilities and the Installation of Underground Facilities in Underground Utility Districts

Section 13.36.090 Responsibility of Property Owners

A. Every person owning, operating, leasing, occupying or renting a building or structure within a district shall construct and provide that portion of the service connection on his or her property between the facilities referred to in Section 13.36.080 and the termination facility on or within said building or structure being served, all in accordance with applicable rules,

regulations, and tariffs of the respective utility or utilities on file with the Commission. If the above is not accomplished by any person within the time provided for in the resolution enacted pursuant to Section 13.36.030, the City Engineer shall give notice in writing to the person in possession of such premises, and a notice in writing to the owner thereof as shown on the last equalized assessment roll, to provide the required underground facilities within 10 days after receipt of such notice.

Consistency with Plans, Policies, and Regulations

The proposed Project would comply with all relevant federal, state, and local policies and regulations as they relate to utilities and service systems. The proposed Project's construction and operation would follow all utilities and service system regulations, which includes compliance with CWA, the California Urban Water Management Planning Act, and all applicable goals, policies, and codes set forth by San Joaquin County and the City of Stockton.

3.17.3 METHODS FOR EVALUATING IMPACTS

This section defines the utilities and service systems RSA and describes the methods used to determine the impacts the proposed Project's construction and operation could have on utilities and service systems.

Definition of Resource Study Area

As defined in Section 3.0, *Introduction*, RSAs are the geographic boundaries in which the environmental investigations specific to each resource topic were conducted. The RSA for utility and service systems is defined by the proposed Project's construction limits and includes the service area of the utility and service systems providers, which extends to the City of Stockton. The utilities and service systems RSA encompasses the impacts generated from the proposed Project's construction and the potential regional impacts from utility connections.

Methods for Data Collection and Analysis

Utility impact analysis began in April 2020. A Project vicinity map and a Project description with Project limits was mailed to all utility agencies that serve the City of Stockton. Thirteen utility agencies responded to the mailing. Five of those agencies did not have utilities within the Project limits. The eight remaining agencies sent facilities map information that was added to a utility base file. The impacted agencies include the following:

- AT&T
- California Water Service Company (Cal Water)
- Century Link/Level 3
- City of Stockton Sewer and Storm Drain
- Level 3
- Verizon

- PG&E Gas and Electric
- Sprint

In October 2020, utility conflict exhibits were generated. These exhibits identify all utilities within the Project limits and any potential conflicts. An individual utility conflict letter was generated for each agency informing them about potential conflicts. The utility conflict letters also requested any vertical information to help identify additional conflicts, including as-builts or known vertical data. The responses from the utility agencies, in conjunction with a literature review of existing planning documents that includes, but is not limited to, the Envision Stockton 2040 General Plan, Envision Stockton 2040 General Plan EIR, Utility Master Plan Supplements, 2035 Wastewater Master Plan, Sewer System Management Plan (2016-2020), and Stockton Municipal Code, helped identify potential utility conflicts with the proposed Project.

Methods for Determining Significance under CEQA

The thresholds of significance for impacts were developed consistent with CEQA Guidelines (Appendix G) to determine the significance of potential impacts in relation to utilities and service systems that could result from implementing the proposed Project. Accordingly, the following criteria were assessed:

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

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

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?

d) Would the project generate solid waste in excess of state or local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

e) Would the project comply with federal, state, or local management and regulations related to solid waste?

3.17.4 AFFECTED ENVIRONMENT

This section describes the affected environment related to utilities and service systems.

Water

There are two water service providers serving the Stockton area: Cal Water Stockton District, which serves roughly 42,000 service connections, and the City of Stockton Municipal Utilities Department, which serves roughly 48,000 service connections. Cal Water serves the central part of the Stockton area, which is where the proposed Project is located. The City of Stockton Municipal Utilities

Department serves northern and southern Stockton outside of the proposed Project limits (see Figure 3.17-1). The Project impact analysis focuses on Cal Water services.

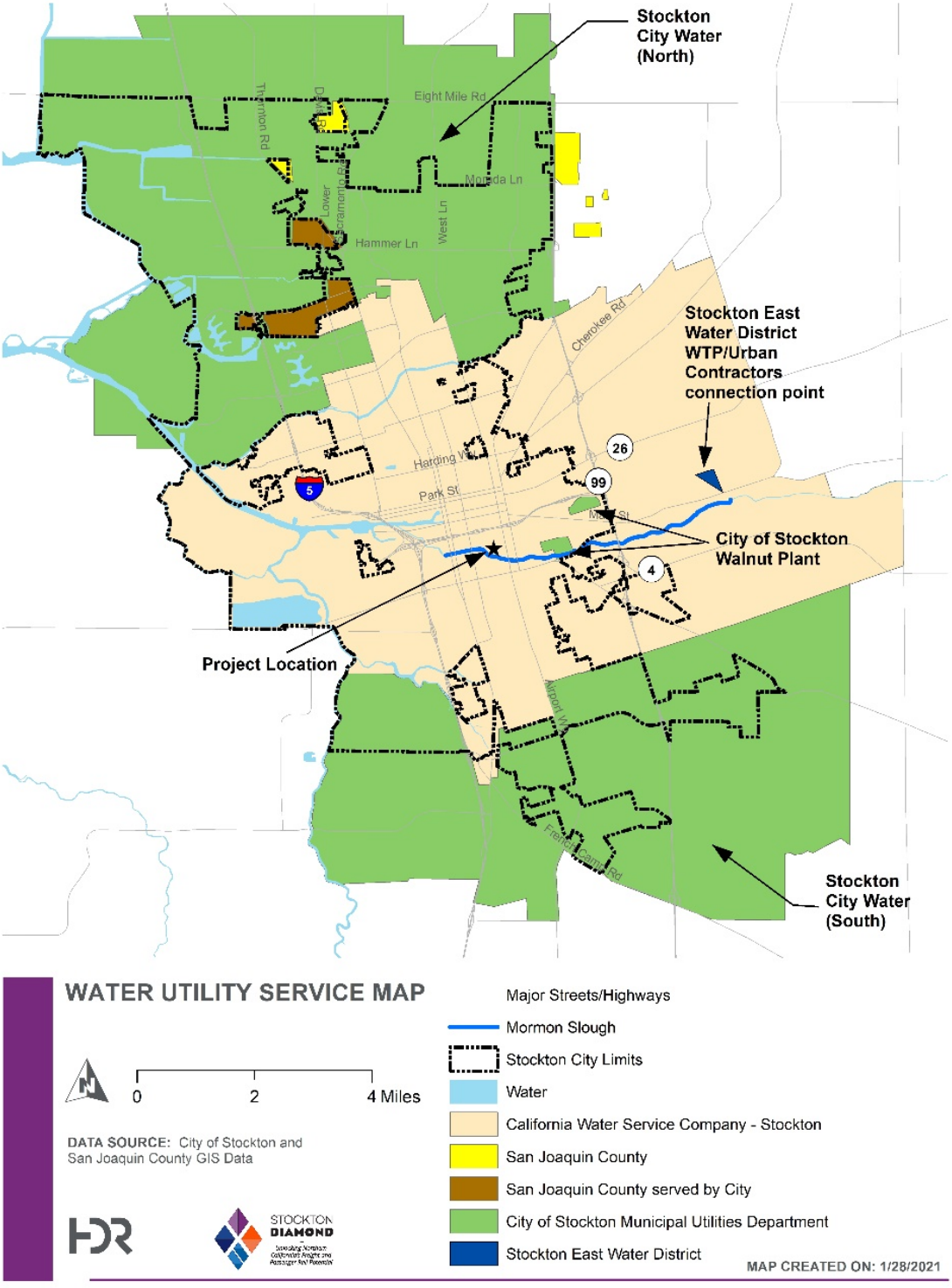
Cal Water serves the central portion of the City of Stockton and the adjacent parts of unincorporated San Joaquin County. Cal Water water supplies consist of purchased water and groundwater. The purchased water is sourced from the Stockton East Water District (SEWD). This water is imported from the New Melones Reservoir on the Stanislaus River and the New Hogan Reservoir on the Calaveras River. The SEWD treatment plant in the eastern Stockton area has a capacity of 60 million gallons per day (mgd) with plans to increase to 65 mgd in the future. The groundwater for Cal Water is produced from the East San Joaquin Subbasin, which is part of the San Joaquin Valley Groundwater Basin.

Cal Water delivered an average of 23 mgd to more than 42,000 service connections for more than 170,000 customers in 2015. According to the 2015 Urban Water Management Plan, Cal Water's projected water demands during single-dry-year and multiple-dry-year conditions through 2040 are sufficient based on current and planned water supplies.

The following Cal Water water lines are located within the proposed Project limits and will need to be protected in place by having a concrete cap or steel sleeve added, or they will need to be relocated to avoid a potential conflict:

- 6-inch pipe in East Main Street
- 4-inch pipe in East Market Street
- 10-inch pipe in East Sonora Street
- 8-inch pipe in East Hazelton Street
- 12-inch pipe south of the Diamond

Figure 3.17-1. Water Utility Service Map



Source: Envision Stockton 2040 Draft EIR

Wastewater

The City of Stockton's sewer system consists of 914 miles of sewer lines and 28 sewer pump stations. The sewer system encompasses the greater Stockton area, including the unincorporated areas. The Stockton Regional Wastewater Control Facility (RWCF) is where wastewater is treated and then discharged to the San Joaquin River. Wastewater from residential, commercial, and industrial customers is treated at RWCF with tertiary treatment: dual media filtration, chlorination, and dichlorination. RWCF treats 32 mgd of wastewater as of 2015.

According to the 2040 General Plan EIR, total wastewater generation is projected to be approximately 59.7 mgd from new developments and approved or pending projects. When combined with the existing facilities, the anticipated retrofitting and addition of pump stations, pumps and controls, and sewer mains, which are due to net increases in development allowed by the General Plan, RWCF is anticipated to have adequate capacity for the increased demand.

Stormwater

The City of Stockton's current storm drainage system includes 620 miles of storm drains that range from 4-inches to 96-inches. The major receiving water bodies in the region include Pixley Slough, Bear Creek, Mosher Slough, Five Mile Slough, Calaveras River, Fourteen Mile Slough, Smith Canal, Stockton Deep Water Ship Channel, San Joaquin River, Walker/French Camp Slough, Duck Creek, and North Little Johns Creek.

Within the utilities and service systems RSA and the City of Stockton, stormwater falls into the City's municipal storm drain system and ultimately drains into local streams, creeks, and rivers that carry it to the Sacramento-San Joaquin Delta. The majority of the storm drain system is a gravity flow pipe network. Storm drainpipes, drainage inlets, and manholes that are impacted by the proposed Project will be protected in place, relocated, or raised to grade as necessary.

Section 3.9, *Hydrology and Water Quality*, provides a detailed description of regional and local drainage patterns that pertain to water quality regulation through NPDES. The proposed Project's receiving water body is the Mormon Slough, which is under the purview of CVFPB. Additionally, Section 3.9 summarizes the hydrology and water quality RSA's preliminary hydraulic conditions and identifies the agencies involved and what they may require. These agencies include the City of Stockton, SEWD, the County of San Joaquin, and SJAFCA. An encroachment permit may be required for the proposed Project under the CVFPB's regulations. Project runoff will be collected through either a system of storm drainpipes, culverts, or sheet flows directly into the Mormon Slough.

Solid Waste

Solid Waste Collection Services

The City of Stockton has contracted Republic Services and Waste Management to collect solid waste from residential and non-residential customers. Residential services include weekly trash, recycling, green waste, and food waste collection. Construction debris, if disposed by a third party

outside the construction crew, must be disposed by an industrial waste collector or a commercial recyclable material collector that is authorized by the City with a necessary solid waste hauling permit.

Landfills

Solid waste collected in Stockton is taken to the Forward Landfill in Manteca, the North County Landfill and Recycling Center in Lodi, or the Foothill Sanitary Landfill in Linden. Construction and demolition material are processed at the East Stockton Transfer Station. In 2016, solid waste disposal from Stockton totaled 310,000 tons.

Electricity and Natural Gas

PG&E is the primary electricity and natural gas provider in the City of Stockton. In the utilities and service systems RSA, PG&E's electrical transmission lines transport electricity in both underground and overhead lines. The existing electricity demands for residential, commercial, and industrial land uses within the City of Stockton are over 1,744 gigawatt-hours (GWh) per year. On the other hand, PG&E's high-pressure gas transmission pipelines deliver natural gas to residential and commercial connections through smaller, lower pressure neighborhood distribution pipelines. According to the 2040 General Plan Update EIR, the natural gas demand in the City of Stockton totaled 57 million therms per year in 2016.

A combination of underground gas pipes, underground electric, overhead 12 kilovolt (kV) distribution lines, and 60kV overhead transmission poles are located within the Project limits. All impacted gas lines or underground electric will be protected in place with a concrete cap or steel sleeve or relocated. The 12kV distribution lines and 60kV transmission lines will also be relocated, raised, or designed around to avoid conflicts with the proposed Project. The 60kV lines are considered high voltage lines and are a high-risk utility. The 60kV poles within the Project limits are at the following locations:

- South side of East Hazelton Avenue from South Aurora Street to South Union Street
- Along East Anderson Street from South Aurora Street to South Pilgrim Street
- South side of East Charter Way

Telecommunications

There are a variety of communication lines (such as fiber optic, television, telephone, and internet) in the utilities and service systems RSA. The lines are owned and operated by private providers including Comcast (overhead), AT&T (overhead and underground), Verizon (underground), Sprint (underground), Level 3 (underground), and Century Link (underground).

Generally, a Sprint underground telecommunications line runs on the west side of the existing UP tracks while Level 3 and CenturyLink run north south on the east side of the existing UP tracks. Verizon and AT&T generally run east to west along the local streets including Market, Church, Hazelton, and Charter Way.

Emergency Response

The Traffic Study Area is served by two fire stations of the City of Stockton Fire Department. Fire Station 2 (110 West Sonora Street), is the fire station nearest the proposed Project. Fire Station 2 currently uses SR 4 and East Lafayette Street as primary routes for emergency response. Fire Station 3 (1116 East First Street) accesses the Traffic Study Area via South Airport Way.

San Joaquin County Office of Emergency Services is responsible for the County's Emergency Operations Plan (EOP), which has been developed pursuant FEMA and Cal OES guidance. As an annex to the Emergency Operations Plan, an Area Plan has been designed to identify responsibilities and provide coordination of emergency response at a local level in San Joaquin County. The Area Plan is also intended to provide guidelines to minimize danger to the public, and to protect property and the environment from exposures as a result of a hazardous materials incident (San Joaquin County 2019a). The Area Plan has been developed pursuant to the California Health and Safety Code.

3.17.5 ENVIRONMENTAL ANALYSIS

This section describes the potential environmental impacts that utility and service systems could experience as a result of Project implementation.

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

Less than Significant Impact. Project construction would affect existing overhead and underground utilities due to the construction of new tracks, structures, or upgrades to existing tracks that involves ground-disturbing work. These activities would affect existing utility line placements. There is also the potential that ground-disturbing activities could damage existing utility infrastructure and lead to temporary service interruptions. Utility relocations, rerouting, removals, and utility line replacements, including electrical, gas, fiber optic cable, sewer, and storm drains, would be required as a part of the proposed Project. Potential utility conflicts have been identified. During the proposed Project's final design phase, utility potholing would be conducted to identify utility conflicts definitively, and mitigation measures would be proposed. Project construction would require new flyover bridges, which would necessitate the raising and rerouting of overhead utility lines. Utility upgrades and relocations would occur on previously disturbed land or on existing infrastructure.

The proposed Project would implement Measure BMP UTIL-1, which requires stakeholders to be notified of utility service interruptions prior to construction, in conformance with Section 4216 of the California Government Code. The proposed Project would also be designed in coordination with SFD for water supply access points (hydrants) along the flyover. With the implementation of Measure BMP UTIL-1, short-term impacts would be considered less than significant, and no mitigation is required.

The proposed Project would result in permanent relocation of utilities. However, with the implementation of Measure UTIL-2, all utility relocations will be coordinated with each utility owner to ensure that the existing utility is protected in place in its current location, as feasible, or access maintained to these existing utility facilities. Measure BMP UTIL-2 also specifies that the Project would not preclude future potential replacement of utilities within the Project Study Area.

In addition, the Project will evaluate existing and proposed utility protection and relocation in areas located within the proposed railroad corridor. Empty sleeves and/or conduits will be provided to maintain existing utilities or to provide access for future planned utility installation. With the implementation of Measure BMP UTIL-2, ~~After construction, proposed Project operations would not require or result in the relocation or construction of utility infrastructure and facilities. Therefore~~ no long-term impacts to utility facilities would occur.

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

Less than Significant Impact. Construction would not result in substantial increases in demand for water such that existing resources would be insufficient to serve such proposed Project activities. Cal Water owns and operates the domestic water lines located within the Project limits. Construction of the proposed Project would require water use for concrete work, earthwork compaction, and dust control. Although some underground water lines would be relocated or rerouted between East Lafayette Street and East Hazelton Avenue, proposed improvements for track work would not require a substantial amount of water for construction purposes, and local water providers have sufficient capacity to serve the proposed Project's temporary and minimal needs. Cal Water, as documented in the 2015 Urban Water Management Plan, is expected to have sufficient capacity to accommodate growth in its service area through future development during normal, dry, and multiple dry years. Therefore, short-term impacts are considered less than significant, and no mitigation is required.

After construction of the proposed Project, Project operations would not require or result in the demand for water supply. Therefore, no long-term impacts to water supply would occur.

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?

Less than Significant Impact. During construction, sewer lines would be removed and relocated, including the relocation of City-owned sanitary sewer lines. In addition, there would be a temporary increase in need for wastewater treatment from cleaning equipment, controlling dust, or other construction related activities. However, with the implementation of Measure BMP UTIL-3~~2~~, which requires that utility disruptions and service system inconveniences are avoided, where possible, and that consideration be made for design opportunities to avoid permanent impacts to existing utility infrastructure, where practical, short-term impacts would be considered less than significant, and no mitigation measures are required.

Operation of the proposed Project would not trigger an increase in demand for sewer system use, as the proposed improvements are limited to operational improvements to an existing rail facility. Therefore, no long-term impacts are anticipated.

d) Would the project generate solid waste in excess of state or local infrastructure, or otherwise impair the attainment if solid waste reduction goals?

Less than Significant Impact. Construction of the proposed Project would generate solid waste from clearing vegetation, grading, demolishing existing track and structures, relocating and removing utility lines, and other general construction activities. Some of the solid waste generated may not be reusable or recyclable and would need to be disposed of in local solid waste landfills.

The three local landfills (Forward Landfill in Manteca, the North County Landfill and Recycling Center in Lodi, and the Foothill Sanitary Landfill in Linden) would have sufficient capacity to accommodate the solid waste generated from the proposed Project. Therefore, the proposed Project would be served by a landfill with sufficient permitted capacity to accommodate proposed Project solid waste disposal needs and short-term impacts would be considered less than significant.

Operation of the proposed Project would not generate solid waste, as the proposed improvements are limited to operational improvements to an existing rail facility. Therefore, no long-term impacts are anticipated.

e) Would the project comply with federal, state, or local management and regulations related to solid waste?

No Impact. Project construction would comply with regulations including CALGreen Section 5.408 and Stockton Municipal Code Section 8.28.060. As part of the proposed Project, the Project team would maximize recycling and reuse, in compliance with the Integrated Waste Management Act, in order to reduce waste being transferred to landfills. Project operations would not generate additional solid waste and thus would not violate applicable statutes and regulations related to solid waste.

The proposed Project would follow the policies and goals in the City of Stockton's 2040 General Plan to expand opportunities for recycling, material reuse, and waste reduction. Therefore, the proposed Project would not violate existing rules and regulations related to solid waste disposal and no short-term or long-term impacts are anticipated.

3.17.6 BEST MANAGEMENT PRACTICES AND/OR MITIGATION MEASURES

No mitigation is required for utilities and service systems. However, the following BMP measures relevant to utilities will be applied to the proposed Project.

BMP UTIL-1: **Notify Stakeholders of Utility Service Interruptions.** During final design and prior to construction, SJRRC will ensure compliance with Section 4216 of the California Government Code, that requires Project proponents to notify and inform relevant stakeholders prior to construction, thereby reducing the adverse impacts associated with temporary disruptions in utility services. SJRRC will coordinate with all utility providers during final design and construction planning phases to develop a Utility Relocation Plan (URP) to minimize service disruption. The URP would also include

efforts to communicate and inform utility service customers of potential planned service interruptions.

BMP UTIL-2: **Utility Avoidance Coordination.** SJRRC will coordinate with City of Stockton (City) and other utility providers during final design to address utility relocation impacts. The following methods will be implemented to avoid permanent impacts to utilities and access to existing or future planned utilities:

- **Protect in Place.** SJRRC will evaluate protect in place options to maintain the utility in its current location. These options include evaluation of load above the utility and reinforcement options, to be approved by the utility provider. Bridge columns and other bridge-related subsurface work will be designed in coordination with the utility provider affected to avoid impacting the utility. Accurate horizontal and vertical location of the utility will be gathered to support the avoidance and protection design.

- **Access.** SJRRC will work with the utility provider during the final design phase to prepare a design that maintains provider access to the utility for inspection and maintenance, as well as to not preclude future potential replacement of the utility.

BMP UTIL-32: Minimize Utility and Service System Disruptions. During final design, SJRRC will ensure that utility disruptions and service system inconveniences are avoided, where possible, and will consider design opportunities to avoid permanent impacts to existing utility infrastructure, where practical.

4 Alternatives

4.1 Alternatives Development and Screening Process

4.1.1 CEQA REQUIREMENTS

Section 15126.6(a) of the State CEQA Guidelines requires an EIR to describe a range of reasonable alternatives to a project, or the location of a project, that would avoid or substantially lessen any of the significant effects.[1] The alternatives need not meet every goal and objective set for the proposed project, but they should "feasibly attain most of the basic objectives of the project." CEQA does not require that all possible alternatives be considered. Rather, "a range of potentially feasible alternatives," governed by the "rule of reason," must be considered to encourage both meaningful public participation and informed decision making.

The CEQA Guidelines specifically require consideration of a "No Project" alternative. Including a No Project alternative allows decision-makers to compare the impacts of approving the project with the impacts of not approving a project. The CEQA requirement for the inclusion of a No Project alternative is discussed in further detail in Section 4.2, *Alternatives Carried Forward for Analysis*.

4.1.2 PRELIMINARY ALTERNATIVES DEVELOPMENT AND SCREENING

A grade separation of the Stockton Diamond can only be accomplished by changing the elevation of the main tracks for either BNSF, UP, or both. Four high-level design concepts were identified at the beginning of the study as potential reasonable options to meet the purpose and need described in Chapter 1, *Introduction*:

1. UP flyover with BNSF at grade
2. BNSF flyover with UP at grade
3. UP flyover with BNSF in trench
4. BNSF flyover with UP in trench

Design variations of these four primary concepts were developed during the concept screening process and presented to the host railroads. The variations included shifting the location of the proposed flyover alignment and revisions to the various track vertical grades. The concepts and their variations are in included in Appendix G, *Preferred Alternative and Concepts Eliminated from Further Consideration*, and additional details are summarized in this chapter[2].

[1] Chapter 3, *Environmental Analysis*, discusses in detail the differences between CEQA and NEPA as they relate to impact assessments.
[2] UP and BNSF would not accept a trench option when the alternatives development and screen process began; therefore, exhibits for Concepts 3 and 4 are not included in Appendix G.

Five key criteria drove the screening process for the four high-level concepts:

1. Ability to meet the Project's goals and objectives
2. Acceptance by the host railroads, UP, and BNSF
3. Minimization of local road crossing impacts
4. Avoidance and minimization of environmental impacts associated with the concept
5. Minimization of property acquisitions and displacements of residences and businesses

These criteria are further discussed in the following sections.

Project Goals and Objectives

Of utmost importance was a concept's ability to meet the purpose of and need for the Project and to meet the Project's goals and objectives. The proposed Project would improve operational efficiency in the regional rail network that exists where the BNSF main lines cross the UP main lines in the City of Stockton, at the Stockton Diamond. Since each of the four high-level concepts would provide a grade-separated crossing at the Stockton Diamond, all options would meet the goals and objectives of the Project.

As described in Section 1.5, the Project goals and objectives are to:

- Reduce passenger and freight rail delays and associated congestion;
- Maintain key community connections;
- Improve multimodal access;
- Provide local and regional environmental and economic benefits; and
- Address safety by closures and enhancements at key roadway-rail grade crossings.

Acceptance by Host Railroads

Throughout the concept development process, SJRRC established a cooperative and willing partnership with each of the host railroads, BNSF and UP, to move the Project forward. SJRRC is the Project proponent, however SJRRC does not own the affected right-of-way and serves as a tenant on the host railroad's tracks. The host railroads own the railroad right-of-way and tracks/railroad infrastructure, and any improvements would need to meet their design standards and undergo their review processes; therefore, through substantial coordination and an iterative review process, freight railroad concurrence with the potential design concepts was a critical screening criteria. The host railroads clarified early in the concept development process that a trench section (Concepts 3 and 4) was not acceptable and would not be approved because of technical feasibility concerns associated with high groundwater, additional maintenance, and other technical engineering challenges associated with a trench. As a result, Concepts 3 and 4 were rejected from further consideration.

The Project team worked with the host railroads to refine the design options for Concepts 1 and 2, to meet their design standards, and to incorporate rail connections to maintain operational functionality for all railroads to avoid or minimize freight and passenger rail disruptions during construction. At the conclusion of the screening process, the host railroads mutually identified Concept 1 as their preferred option.

Minimization of Local Road Crossing Impacts

To maintain roadway operational efficiency in the Project Area, the development of concepts also considered ways to reduce local road crossing impacts. Currently, several local roadways that provide local access for the community cross the railroad corridor at grade. The grade separation would result in both temporary and permanent impacts on several of these crossings. Concepts 3 and 4 would affect the most local roadways because of the combination of roadways along one rail line being lowered to accommodate the elevated railroad with roadways along the other rail line being raised to accommodate the trenched railroad. More local roadway crossing impacts would result with Concept 2 than with Concept 1 because of the larger number of cross streets that currently exist along the BNSF line compared to the UP line.

However, Concept 1 (UP flyover with BNSF at grade) and Concept 2 (BNSF flyover with UP at grade) would result in fewer right-of-way and environmental impacts related to the trench options' need for complex, offline construction staging and a larger Project footprint.

Environmental and Right-of-Way Impacts

The Project team prepared an environmental constraints analysis for Concepts 1 and 2—the two Stockton Diamond high-level design concepts that were identified as most feasible. Since the two trench options would need to be constructed parallel to the existing railroad tracks to maintain railroad operations during construction, and there would be construction along both rail lines, both Concepts 3 and 4 would result in substantial environmental and property impacts. For that reason, and because the host railroads indicated that they would not approve Concepts 3 and 4, the environmental constraints analysis was conducted for only Concepts 1 and 2. The constraints analysis helped to identify the recommended Project build alternative by comparing the general option for a north-to-south bridge for the UP Fresno Subdivision to fly over the BNSF Stockton Subdivision (Concept 1) against a general option for an east-to-west bridge for the BNSF Stockton Subdivision to fly over the UP Fresno Subdivision (Concept 2).

To complete the analysis, environmental resources that would help inform the development, evaluation, and selection of the alternative were identified and analyzed. For each of the environmental resources, a desktop analysis determined potential environmental constraints associated with the implementation of the alternatives. As potential impacts were identified, modifications were made to the design concepts to minimize and avoid environmental impacts to the extent possible.

The resources evaluated in the environmental constraints analysis included the following:

- land use
- community facilities and public services
- property acquisitions
- transportation and mobility
- noise and vibration
- visual resources
- biological resources
- hydrology and water quality
- paleontological resources
- cultural resources
- hazardous materials

Based on the analysis, the Project team identified Concept 1 as environmentally superior to Concept 2 because it would have fewer environmental impacts related to community facilities and public services, noise and vibration, transportation and mobility, and property acquisitions. Therefore, an option that would include the UP Fresno Subdivision flyover with the BNSF Stockton Subdivision at grade was recommended as the environmentally preferred alternative.

Table 4.1-1 summarizes the preliminary screening of the four high-level concepts.

Table 4.1-1: Summary of Preliminary Screening Results

General Concept	Description	Meets Purpose and Need	Accepted by Host Railroads	Minimizes Local Road Impacts	Minimizes Environ-mental Impacts	Minimizes Right-of-Way Impacts
1	UP elevated, BNSF at grade	●	●	●	●	●
2	BNSF elevated, UP at grade	●	●	●	●	●
3	UP elevated, BNSF in trench	●	●	●	●	●
4	BNSF elevated, UP in trench	●	●	●	●	●

● ● ● ●
best performing worst performing

4.1.3 CONCEPTS CONSIDERED BUT NOT EVALUATED FURTHER IN THIS EIR

A total of five variations of Concept 1 and four variations of Concept 2 were refined to try to further avoid or reduce the potential impacts identified in the environmental constraints analysis, and ultimately a Concept 1 variation, identified as Alternative 1A, was selected by SJRRC as the proposed Project. Table 4.1-2 summarizes the concepts evaluated, key evaluation criteria, and whether the concept was acceptable to the host railroads.

Table 4.1-2. : Evaluation Summary

Concept	Acceptable to the Host Railroads (Yes/No, if No, Why?)	Key Evaluation Criteria
1A Proposed Project	Yes	See Section 2.2, *Alternatives Carried Forward for Analysis.*
1B	Yes	The short distance from the Stockton Wye tracks to the flyover alignment creates challenges for the East Hazelton Avenue roadway profile. Leaving the Stockton Wye at existing grade across Hazelton Avenue likely results in deficient vertical clearance for any practical roadway profiles or concept railroad flyover profiles. The design of the proposed Project avoids these challenges. Concept 1B avoids impacts on the historically significant Amtrak San Joaquin station and minimizes impacts on Mormon Slough, similar to the proposed Project. Concept 1B affects approximately 50 properties, similar to the proposed Project.
1C	No; UP does not support this concept because of the restrictive vertical grades for the UP Stockton Yard lead track and inability to meet 20 mph design speeds of yard connection track.	Concept 1C affects fewer local road crossings (6) compared with the proposed Project (8). Concept 1C avoids impacts on the historically significant Amtrak San Joaquin station and minimizes impacts on Mormon Slough, similar to the proposed Project. Concept 1C affects approximately 50 properties, similar to the proposed Project.
1D	No; UP does not support this concept because of the restrictive vertical grades to accommodate the new flyover and UP Stockton Yard lead track and inability to meet 20 mph design speed of yard connection track.	Concept 1D affects fewer local road crossings (6) compared with the proposed Project (8). Concept 1D avoids impacts on the historically significant Amtrak San Joaquin station and minimizes impacts on Mormon Slough, similar to the Proposed Project. Concept 1D affects approximately 50 properties, similar to the proposed Project.

Concept	Acceptable to the Host Railroads (Yes/No, if No, Why?)	Key Evaluation Criteria
1E	No; This option would require a new at-grade crossing of the BNSF Stockton Subdivision by a new lead track to the UP Stockton Yard. Development of a new at-grade diamond crossing is counter to the purpose and need of the Project.	Concept 1E would affect more local road crossings compared with the Proposed Project because of the yard track crossing at grade. Concept 1E avoids impacts on the historically significant Amtrak San Joaquin station and minimizes impacts on Mormon Slough, consistent with the proposed Project. Concept 1E affects approximately 50 properties, similar to the proposed Project.
2A	No; BNSF does not support this concept because of the steep vertical grades of the new flyover, and the inability to meet 30 mph BNSF main line design speeds.	Concept 2A affects substantially more local road crossings (15) compared with the proposed Project (8). This concept would affect approximately 75 properties, including residential properties, while the proposed Project would affect approximately 50 properties. This alternative would not affect the historically significant Amtrak San Joaquin station or the Mormon Slough, consistent with the proposed Project.
2B	No; BNSF does not support this concept because of the steep vertical grades of the new flyover, and the inability to meet 30 mph BNSF main line design speeds.	Concept 2B affects substantially more local road crossings (15) compared with the proposed Project (8). This concept would affect approximately 75 properties, including residential properties, while the proposed Project would affect approximately 50 properties. This alternative would not affect the historically significant Amtrak San Joaquin station or the Mormon Slough, consistent with the proposed Project.
2C	No	Concept 2C affects substantially more local road crossings (15) compared with the proposed Project (8). This concept would affect over 75 properties, including residential properties, while options under the proposed Project would affect approximately 50 properties. Unlike the proposed Project, this concept would result in impacts on the BNSF Mormon Yard, Wilson Way underpass, and the historic Amtrak San Joaquin Street Station. Environmental impacts are anticipated to be much greater than those under the proposed Project because the project footprint extends east of SR 99.

Concept	Acceptable to the Host Railroads (Yes/No, if No, Why?)	Key Evaluation Criteria
2D	No	Concept 2D affects substantially more local road crossings (15) compared with the proposed Project (8). This concept would affect over 75 properties, including residential properties, while options under the proposed Project would affect approximately 50 properties. Unlike the proposed Project, this concept would result in impacts on the BNSF Mormon Yard, Wilson Way underpass, and the historic Amtrak San Joaquin Street Station. Environmental impacts are anticipated to be much greater than those under the proposed Project because the project footprint extends east of SR 99.
3	No; early in the railroad coordination efforts for the Project, BNSF and UP stated that depressing their tracks in a trench would generally not be acceptable given groundwater levels, additional maintenance, higher capital costs, and other challenges associated with a trench section, including the requirement to have two existing railroad tracks in operation at all times during construction.	Concept 3 would affect local road crossings along both the UP Fresno Subdivision and BNSF Stockton Subdivision, which equates to impacts on over 20 crossings compared with 8 under the proposed Project. Trench sections would affect Mormon Slough both biologically and hydrologically, while the proposed Project would not affect Mormon Slough. A railroad trench section bisecting the Mormon Slough would not be feasible given flood control requirements. This is not proposed under the proposed Project. Unlike the proposed Project, staging under this concept would create additional right-of-way and local access impacts. This concept would not affect the historically significant San Joaquin station, consistent with the proposed Project.
4	No; early in the railroad coordination efforts for the project, BNSF and UP stated that depressing their tracks in a trench would generally not be acceptable given groundwater levels, additional maintenance, higher capital costs, and other challenges associated with a trench section.	Concept 4 would affect local road crossings along both the UP Fresno Subdivision and BNSF Stockton Subdivision, which equates to impacts on over 20 crossings compared with 8 under the proposed Project Trench sections would affect Mormon Slough both biologically and hydrologically, while the proposed Project would not affect Mormon Slough. A railroad trench section bisecting the Mormon Slough would not be feasible given flood control requirements. This is not proposed under the proposed Project. Unlike the proposed Project, staging under this concept would create additional right-of-way and local access impacts. This concept would not affect the historically significant San Joaquin station, consistent with the proposed Project.

The sections below provide a detailed discussion of the refinements of the various concepts developed and provides reasons for their elimination from full evaluation in this draft EIR.

Concept 1 Variations

Concept 1 consists of the UP Fresno Subdivision flyover of the BNSF Stockton Subdivision on a new alignment. The five variations on the alignment are described as Concepts 1B, 1C, 1D, and 1E, in addition to the proposed Project, Alternative 1A.

Concept 1B

Concept 1B consists of the UP Fresno Subdivision flyover of the BNSF Stockton Subdivision on a new alignment, offset to the east of the existing main line tracks. The Concept 1B flyover alignment is shifted closer to the existing main track alignment than the proposed Project. Under Concept 1B, there is a short distance from the Stockton Wye tracks to the flyover alignment.

Concept 1B reduces vertical flyover grades by extending the main track south of Charter Way, which encroaches on the UP Stockton yard. At the north end, the flyover alignment stays on tangent under the SR 4 Crosstown Freeway and conforms to the existing alignment a few blocks north. The connection track to UP's Stockton yard requires a 2 percent grade in order to tie in before Charter Way.

REASONS FOR ELIMINATION

Concept 1B was eliminated from consideration because the East Hazelton Avenue underpass would not meet the minimum vertical clearance requirement of 16.5 feet for a roadway underpass. Not meeting the vertical clearance introduces safety risks as trucks could potentially strike the bridge. Additionally, the short distance from the Stockton Wye tracks to the flyover alignment creates engineering feasibility challenges for the East Hazelton Avenue roadway profile. To mitigate this, it was proposed to lower the Stockton Wye (a planned connecting track in the northwest quadrant of the Stockton Diamond) by approximately 3 feet. However, UP is currently preparing final design plans for the Stockton Wye (scheduled for construction in 2021), and prefers to leave the Wye track as is, to avoid throwaway work.

Concept 1C

Under Concept 1C, the UP flyover alignment is shifted east of the existing Fresno Subdivision, predominantly within existing UP right-of-way, and close to Union Street to accommodate the required track geometry. The flyover conforms back to existing track at East Charter Way at the southern extent, and the SR 4 Crosstown Freeway at the northern extent.

REASONS FOR ELIMINATION

Concept 1C was eliminated because the design was not supported by the host railroads. UP does not support this concept because of the steep vertical grades (1.50 percent versus the 1.11 percent with Alternative 1A) to accommodate the new flyover and UP Stockton Yard lead track and its

inability to meet sufficient design speeds.[3] Additionally, Concept 1C was eliminated for the following reasons:

- Yard connection track profile grade was much greater than the preferred concept, resulting in a reduced operating speed that does not meet UP's requirement of 20 mph on the yard connection track.
- Yard track connections were not optimal for UP operations.
- Yard track turnouts were not arranged in the preferred manner.

Concept 1D

Concept 1D includes the same design as Concept 1B; however, the Stockton Yard lead track grade is reduced to 1.5 percent, which results in the need for an additional bridge over Charter Way.

REASONS FOR ELIMINATION

Concept 1D was eliminated because the design was not supported by the host railroads. UP does not support this concept because of the steep vertical grades for the UP Stockton Yard lead track and its inability to meet sufficient design speeds. Additionally, Concept 1D was eliminated for the following reasons:

- Yard track clear distance was reduced.
- Increased impacts on UP yard operation were not acceptable.
- Oakland Subdivision did not connect to the same tracks as in the existing conditions to support UP main line operations.

Concept 1E

This alternative is similar to the UP flyover options with Concept 1B; however, the UP Stockton Yard track would extend at grade across the BNSF Stockton Subdivision. This improves UP operations by keeping the yard lead track flat.

REASONS FOR ELIMINATION

Concept 1E was eliminated because this alternative would require a new at-grade diamond crossing of the BNSF Stockton Subdivision by a new lead track to UP Stockton Yard. Developing a new at-grade diamond crossing is counter to the purpose and need of the proposed Project. Additionally, the at-grade diamond crossing would not be approved by one of the railroads.

[3] Design speed for main line tracks is 30 mph. The yard tracks' design speed is 20 mph. The wye tracks' design speed is 10 mph.

Concept 2 Variations

Concept 2 consists of the BNSF Stockton Subdivision flyover of the UP Fresno Subdivision on a new alignment. The four variations on the alignment are described as Concepts 2A through 2D, all of which have been eliminated from further consideration, and are presented below.

Concept 2A

With Concept 2A, the BNSF Stockton Subdivision flyover alignment is shifted north of the existing Fresno Subdivision. To avoid impacts on the existing Amtrak station, the flyover conforms back to existing track at San Joaquin Street on the western extent. The flyover conforms at the Wilson Way underpass at the eastern extent. This creates a flyover profile of 1.71 percent at the northern end and 2.24 percent at the southern end.

REASONS FOR ELIMINATION

Concept 2A was eliminated because the design was not supported by the host railroads. BNSF does not support this concept because of the steep vertical grades of the new flyover and the inability to meet sufficient design speeds. BNSF did not support profile grades in excess of 2.00 percent, and this concept required a profile grade of 2.24 percent at the southern end.

Additionally, Concept 2A would require improvement, grade separation, or closure of approximately 15 local road crossings, compared to only 8 road crossings with each of the Concept 1 options.

Concept 2A would result in increased right-of-way and property impacts. This option would affect approximately 75 properties, while options under Concept 1 would affect 50 properties. Additionally, almost half of the properties affected by Concept 2A are occupied, and several are residential.

Concept 2B

Concept 2B is similar to Concept 2A; however, Concept 2B shifts the new BNSF flyover south of the existing Stockton Subdivision main line.

REASONS FOR ELIMINATION

Concept 2B was eliminated because the design was not supported by the host railroads. BNSF does not support this concept because of the steep vertical grades of the new flyover and the inability to meet sufficient design speeds. The vertical grades would be the same as with Concept 2A. As with Concept 2A, Concept 2B would require improvement, grade separation, or closure of approximately 15 local road crossings, and would result in substantial right-of-way and property impacts.

Concept 2C

The Concept 2C flyover alignment is similar to Concept 2B; however, with this option, the BNSF flyover conforms are extended farther east and west to reduce vertical grades on the BNSF Stockton Subdivision. Concept 2C includes options to extend Mormon Yard to the east to replace yard capacity lost as a result of the flyover extension.

REASONS FOR ELIMINATION

While Concept 2C improved the vertical grades compared with Concepts 2A and 2B, the same substantial road crossing and property impacts would occur.

Additionally, the proposed extension under Concept 2C would affect the existing BNSF Mormon Yard and the Wilson Way underpass to the east and the existing Amtrak San Joaquin Street Station to the west.

Concept 2D

The Concept 2D flyover alignment is similar to Concept 2A; however, the BNSF flyover conforms are extended further east and west to reduce vertical grades on the BNSF Stockton Subdivision. Concept 2D includes options to extend BNSF Mormon Yard to the east to replace yard capacity lost as a result of the flyover extension.

REASONS FOR ELIMINATION

Concept 2D results in the same substantial road crossing impacts and property impacts as Concepts 2A, 2B, and 2C. As with Concept 2C, Concept 2D would also affect the existing BNSF Mormon Yard and the Wilson Way underpass to the east and the existing Amtrak San Joaquin Street Station to the west.

Concept 3

Concept 3 is one of two hybrid options between Concepts 1 and 2. To meet vertical grades, this concept splits the vertical clearance required by constructing UP Fresno Subdivision tracks in a trench and elevating the BNSF Stockton Subdivision tracks.

REASONS FOR ELIMINATION

Concept 3 was eliminated because early in the Project team's railroad coordination efforts, BNSF and UP stated that depressing their tracks in a trench is not generally acceptable because of groundwater levels, additional maintenance, and other challenges associated with a trench section. Additionally, staging would create additional right-of-way and local access impacts.

Trench sections would affect Mormon Slough both biologically and hydrologically. Mormon Slough may be under the jurisdiction of the U.S. Army Corps of Engineers (USACE) as a Water of the U.S. The SJAFCA has future plans for Mormon Slough as a flood conveyance facility. Both 100- and 200-year flood flows would need to be accommodated by any new facility. As such, a railroad trench section bisecting the Mormon Slough would not be feasible, given these requirements.

Further, Concept 3 would affect local road crossings along both the UP Fresno Subdivision and BNSF Stockton Subdivision, which equates to impacts on over 20 local road crossings.

Concept 4

Concept 4 is the second of two hybrid options between Concepts 1 and 2. To meet vertical grades, Concept 4 splits the vertical clearance required by constructing BNSF tracks in a trench and elevating UP tracks.

REASONS FOR ELIMINATION

Concept 4 was eliminated because early in the railroad coordination efforts, BNSF and UP stated that depressing their tracks in a trench is not generally acceptable because of groundwater levels, additional maintenance, and other challenges associated with a trench section. Staging would create additional right-of-way and local access impacts.

Additionally, trench sections would affect Mormon Slough. As previously noted, Mormon Slough may be under USACE jurisdiction as a Water of the U.S., and SJAFCA has future plans for Mormon Slough as a flood conveyance facility. Both 100- and 200-year flood flows would need to be accommodated. As such, a railroad trench section bisecting the Mormon Slough would not be feasible.

Finally, Concept 4 would affect local road crossings along both the UP Fresno Subdivision and BNSF Stockton Subdivision, which equates to impacts on over 20 local road crossings.

4.2 Alternatives Carried Forward for Analysis

As a result of the alternatives analysis completed in the preliminary engineering phase and described above, the proposed Project (Alternative 1A), and the No Project Alternative are carried forward in this EIR for full analysis. The proposed Project is the only alternative that met the Project goals and objectives, remained acceptable to the host railroads, and resulted in less adverse effects. Chapter 3, ~~*Affected Environment,* *Environmental Analysis*~~*, and Best Management Practices and/or Mitigation Measures,* of this EIR provides an analysis of the proposed Project and the No Project Alternative.

4.2.1 NO PROJECT ALTERNATIVE

CEQA requires that an EIR include the evaluation of a “no project” alternative [CEQA Guidelines Section 15126.6(e)]. The No Project Alternative considers the impacts of conditions forecast by current plans for land use and transportation in the vicinity of the Project Area, including planned improvements to future passenger rail infrastructure through the 2045 planning horizon.

Currently, under the base study year (2019), trains operating on the BNSF and UP main lines at the Stockton Diamond consist of BNSF and UP freight trains, ACE commuter passenger trains between Stockton and San Jose operated by SJRRC, and intercity Amtrak San Joaquins passenger trains between Oakland/Sacramento and Bakersfield operated by SJJPA. In the horizon year of 2045, it is anticipated that approximately 64 freight trains and 22 passenger trains will travel through the Stockton Diamond per day.

Under the No Project Alternative, the existing at-grade intersection of the BNSF Stockton Subdivision and UP Fresno Subdivision would not be replaced with a grade-separated structure (that is, bridge) that would elevate the UP main tracks above the BNSF main tracks. Therefore, trains operating on the BNSF Stockton Subdivision could not advance through the intersection without potential conflict with through trains operating on the UP Fresno Subdivision.

All existing connections between the two railroads would remain and function as they currently do, and no alignments would be modified. As a result, operating conflicts between trains on various routes through the Stockton Diamond would continue. Additionally, under the No Project Alternative, UP main tracks would remain across the BNSF main tracks at grade. Therefore, traffic conflicts and train staging that currently occur as trains wait on one railroad's main track for trains using the other railroad's main track to pass through the Stockton Diamond would persist. Wait times at public roadway rail grade crossings in the Project Study Area are currently influenced by their location in a congested urban area and proximity to the Stockton Diamond. There would be no reductions in wait times along these roadways under the No Project Alternative. In general, average roadway-rail grade crossing occupancy times and roadway vehicle delays would increase in the Project Study Area over time with the projected increase in population and anticipated increases in rail traffic. These delays would not only affect vehicles but would also affect the efficiency of pedestrian and bicycle travel.

San Joaquin County's population continues to grow. According to the U.S. Census Bureau's American Community Survey 5-year estimates, its 2018 population was 732,212. According to the University of the Pacific's Center for Business and Policy Research, San Joaquin County is expected to exceed 1 million people by 2040.[4] With this anticipated increase in population, a greater number of people will use the roadway and railroad network, and rail and roadway congestion, air quality, and safety would be expected to worsen given no improvements to the current system.

A total of 10 collisions were recorded in the Project Study Area at Project Area rail-grade crossings between 2015 and 2019. In this 4-year period, a total of 10 accidents occurred at these at-grade road/rail locations, with six involving pedestrians and bicycles (with freight trains) and four involving vehicles with trains).Under the No Project Alternative, no grade separation or improvements along intersections in the Project Study Area would occur and the trends in collision risks at these locations would not improve.

The No Project Alternative does include planned projects. Several potential improvements to the railroad infrastructure, independent of the proposed Project, are currently planned or are under consideration by UP and/or BNSF. One project considered part of the No Project Alternative directly related to the proposed Project is the Stockton Wye Track. This project, planned for 2021, will construct a new wye connection between the UP Fresno Subdivision and BNSF Stockton Subdivision, in the northwest quadrant of the existing Stockton Diamond, to facilitate train movements between the two lines.

[4] SJCOG, 2020, *Population*, https://www.sjcog.org/383/Population

Other notable proposed projects in the Project Study Area included in the No Project Alternative are the Robert J. Cabral Station Expansion Project (Cabral Station Expansion Project) and the Cabral Extension Phase 2 Project. The Cabral Station Expansion Project is located in Downtown Stockton and would involve reconstructing two existing site ingress/egress locations on East Weber Avenue and East Main Street. The remnants of an existing access off South Union Street are proposed for removal, a new Western Pacific Depot Building would be constructed, and a parking lot would be reconfigured.

With construction scheduled to begin in spring 2021, the Cabral Track Extension Phase II Project would construct an additional track that will allow ACE trains to enter/exit the Robert J. Cabral Station and head directly to the ACE Rail Maintenance Facility without accessing the UP Fresno Subdivision. The project includes approximately 1 mile of additional track, a new railroad overcrossing at Harding Way, 3,000 feet of retaining wall to avoid impacts on adjacent private property, and modifications of two at-grade crossings in Stockton.

Once constructed, the Stockton Wye and Cabral Station Expansion projects would address some of the transportation issues in the Project Study Area; however, these projects would not solve the congestion, delay, and safety issues related to rail activity through the Stockton Diamond.

4.2.2 PROPOSED PROJECT (ALTERNATIVE 1A)

The proposed Project involves raising the UP Fresno Subdivision tracks to provide the vertical clearance required to grade separate the existing crossing of the UP and BNSF tracks at the Diamond.

There are three design options for constructing the flyover component of the proposed Project. The primary difference between the design options is how the track would be supported. The three design options are:

- **Embankment Design Option.** The tracks would be supported by an earth embankment constructed with a 2:1 slope or flatter. Seven bridges and one concrete box culvert would be required. Two bridges would be required over Charter Way, one bridge over Hazelton Avenue, and one long bridge with spans over Scotts Avenue, the Southwest Wye Track, BNSF Main Tracks, and the Northeast Wye Track. Each bridge would consist of steel spans over the roadway or railroad tracks, with prestressed concrete box beam approaches. There would be a concrete box culvert conveying drainage for the Mormon Slough. It is possible that the Mormon Slough structure will be a bridge, but at this time it is assumed to be a culvert.
- **Retaining Wall Design Option.** Earth fill or lightweight cellular concrete fill (LCCF) would support the track between vertical retaining walls on both sides of the track. As with the earth embankment option, seven bridges and one concrete box culvert would be required. Each bridge would consist of steel spans over roadway or railroad tracks. There would be no approach spans. Two bridges would be required over Charter Way, and one bridge each over Hazelton Avenue, Scotts Avenue, the Southwest Wye Track, BNSF Main Tracks, and the Northeast Wye Track. There would be a concrete box culvert conveying drainage for the Mormon Slough. It is

possible that the Mormon Slough structure will be a bridge, but at this time it is assumed to be a culvert.

- **Viaduct Design Option.** Tracks would be supported on a long viaduct structure consisting of a series of steel or prestressed concrete spans supported on regularly spaced piers. The viaduct would constitute a majority of the flyover length (approximately 2,400 feet) with LCCF retaining walls or soil embankments at the ends of the structure where the required grade raise is less, and it is deemed impractical to have a bridge.

The proposed Project and detailed descriptions of design options are included in Chapter 2, *Project Description*.

This alternative was carried forward for full analysis in this EIR for the reasons described below.

Acceptable by the Host Railroads. Through extensive coordination with UP and BNSF, as owner/operators of the affected rail lines, the proposed Project has been deemed acceptable by both parties and meets their operational and design requirements. The proposed Project includes rail connections that maintain operational functionality for all railroads and can be constructed so as to avoid or minimize freight and passenger rail disruptions during construction.

Reduced Local Road Crossing Impacts. Compared with other alternatives, the proposed Project would affect substantially fewer local road crossings (8), which would require improvement, grade separation, or closure.

Minimizes/Avoids Environmental Impacts. The proposed Project avoids and minimizes impacts to environmental resources within the Project Study Area, including avoiding impacts on the Amtrak San Joaquin Street Station.

Reduced Right-of-way/Property Impacts. The proposed Project would affect 52 properties, while several other alternatives would affect approximately 75. A majority of the properties affected by the proposed Project are either vacant and/or railroad-owned, and none of the affected properties are residential properties. Almost half of properties affected by other alternatives are occupied and several are residential.

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5 Environmental Justice

This chapter describes the proposed Project's impacts on low-income and minority populations, in accordance with recent California State guidelines. While environmental justice is a requirement by federal law[1], there is no explicit CEQA requirement at this time. However, in February 2018, the California Attorney General established the Bureau of Environmental Justice. Its mission is to protect people and communities that endure a disproportionate share of environmental pollution and public health hazards. Under state law: "environmental justice" means the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies[2]. The Bureau of Environmental Justice recommends that CEQA be used to study the potential additional burdens on environmental justice communities.

This chapter includes the review of the regulatory context and methodology, identification of low-income and minority populations, an overview of the public outreach efforts and activities conducted to engage the minority and low-income populations in the Project planning process, assessment of impacts that would affect minority and low-income populations, and the preliminary results of the Project's environmental justice analysis.

The data used in the analysis are derived from the 2018 dataset of the U.S. Census Bureau ACS 5-Year Estimates.

5.1 State Environmental Justice Regulations and Guidance

CEQA states whether a project would have a significant impact on the physical environment and whether these impacts would have adverse impacts on human beings. However, CEQA does not use the terms "fair treatment" or "environmental justice." The principles that are aligned in CEQA are shown to protect the rights of communities disproportionately impacted by projects or programs. Additionally, the two California government codes below align with environmental justice compliance.

5.1.1 CALIFORNIA GOVERNMENT CODE 65040.12(E)

California Government Code 65040.12(e) states that environmental justice is the "fair treatment and meaningful involvement of people of all races, cultures, incomes, and national origins, with respects to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies."

[1] Federal Actions to Address Environmental Justice in Minority Populations (Executive Order 12898)
[2] Gov. Code, § 65040.12, subd (e)

5.1.2 CALIFORNIA GOVERNMENT CODE 11135(A)

California Government Code 11135(a) states no one shall be discriminated to receive full and equal access to the benefits of any programs or activities conducted, operated or administered by the state of by any state agency.

5.2 Methods for Evaluating Effects

The following sections summarize the socioeconomic make-up within the environmental justice RSA and the methods used to analyze effects on minority populations and low-income populations.

Minority and low-income populations, as analyzed in this chapter, are defined as follows:

- **Minority populations**: Includes persons who are of American Indian and Alaskan Native, Asian, Black or African American, Hispanic or Latino, and Native Hawaiian and other Pacific Islander. Affected minority population refers to any identifiable group who live within the geographic proximity who could be affected by the proposed Project.
- **Low-income populations**: Includes persons whose median household income is at or below the Department of Health and Human Services poverty guidelines. Affected low-income population refers to any identifiable group who live within the geographic proximity who could be affected by the proposed Project.

Both quantitative and qualitative analyses were performed in order to evaluate potential impacts on potential environmental justice communities, including:

- Review of aerial photographs and utilization of GIS data layers to show spatial relationships between the proposed Project and socioeconomic-related characteristics of the surrounding community and potential short-term or long-term impacts on community cohesion.
- Evaluation of potential impacts on the community characteristics (using U.S. Census data), including minority demographics and impoverished communities.
- Examination of temporary and indirect impacts on communities during the construction and operation of the proposed Project.

5.2.1 DEFINITIONS OF RESOURCE STUDY AREA AND REFERENCE COMMUNITY

For the environmental justice analysis, the environmental justice RSA for direct, indirect, and cumulative effects on minority and low-income populations is defined as all U.S. Census Bureau census tract block groups that fall partially or completely within a one-half-mile radius of the Project construction limits (see Figure 5.2-1). The environmental justice RSA is located entirely within the City of Stockton. As shown in Figure 5.2-2, 22 census tract block groups are located in the environmental justice RSA. These are also identified in Table 5.2-1.

Table 5.2-1: Census Tract Block Groups in the Environmental Justice Resource Study Area

Census Tract	Block Group(s)	Census Tract	Block Group(s)
1	1, 2, 3, 4	16	2
4.02	1, 2	19	2, 3, 4
5	1, 2	22.01	1, 2
6	1, 2	22.02	2
7	1, 2	23	1, 2, 3

For this analysis, San Joaquin County is defined as the reference community, with which proposed Project effects within the environmental justice RSA are compared to identify the potential for disproportionately high and adverse effects borne by minority and low-income populations in the City of Stockton.

5.2.2 METHODS FOR ANALYSIS OF EFFECTS ON MINORITY AND LOW-INCOME POPULATIONS

Data Collection and Identification of Minority and Low-Income Populations

For each of the 22 census tract block groups and for San Joaquin County, data on low-income and minority populations were obtained from the U.S. Census Bureau's ACS 2018 5-Year Estimates. Minority population data were obtained from U.S Census Bureau ACS Table B03002; for low-income analysis, poverty data were obtained from U.S Census Bureau ACS Table B17010. Additional information on limited English proficiency (LEP) populations in the environmental justice RSA and San Joaquin County was obtained from the ACS 2018 5-Year Estimates Table C16002.

To support the analysis, the data were mapped using GIS to illustrate the percentages of minority and low-income populations within the environmental justice RSA. Additional information on local community resources was collected and mapped using GIS.

Figure 5.2-1: Environmental Justice Resource Study Area

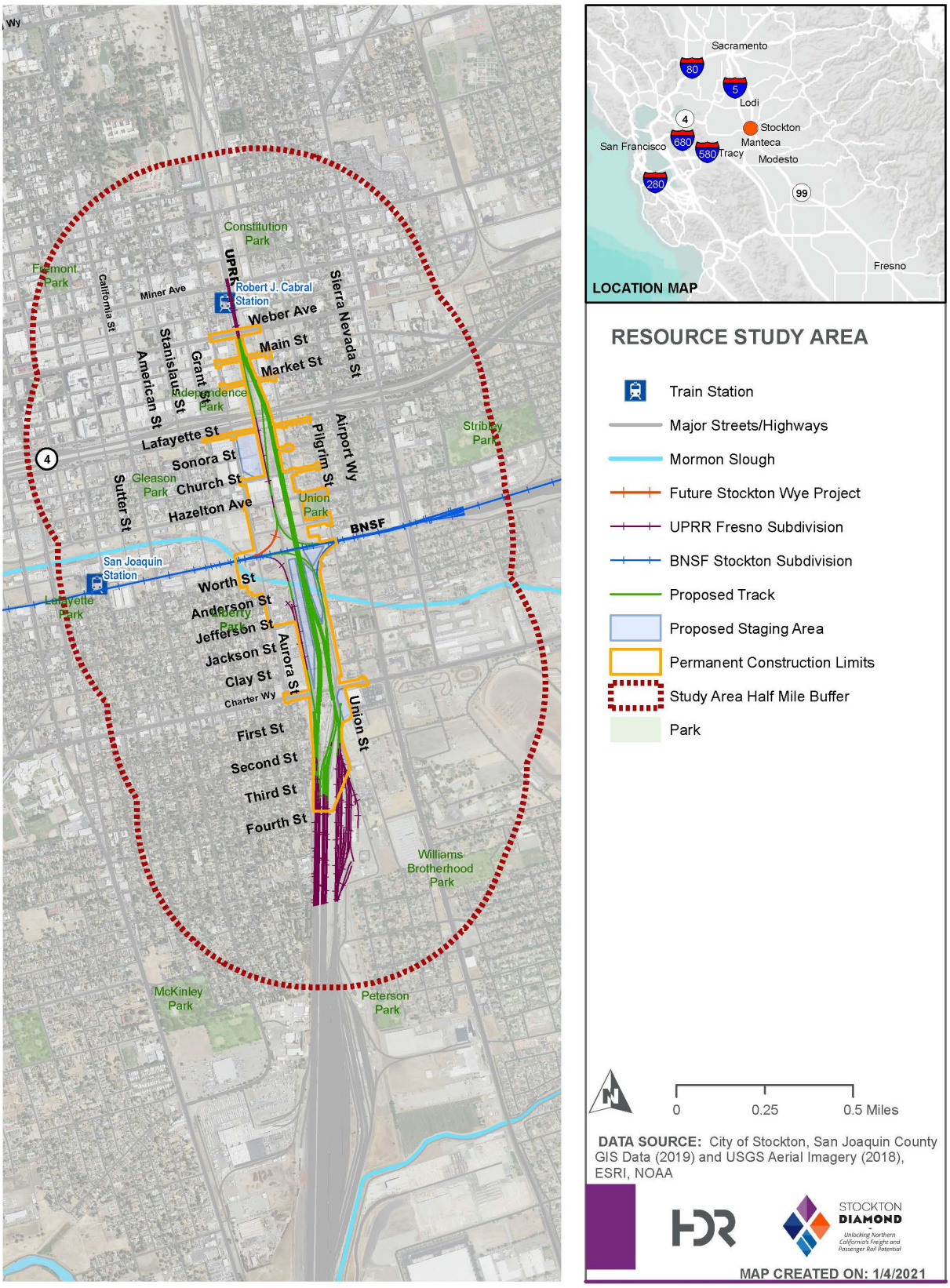
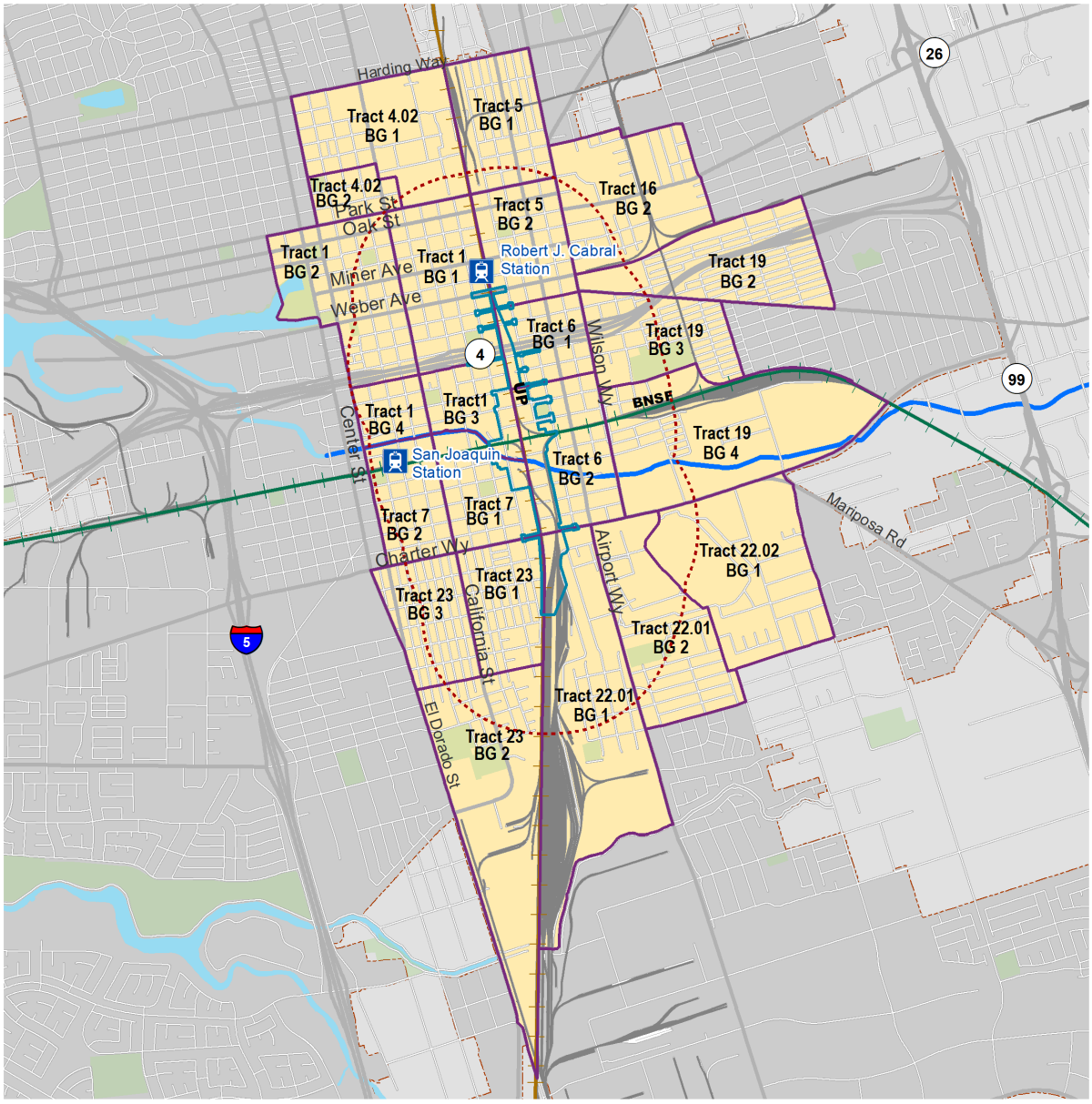


Figure 5.2-2: Census Tract Block Groups in Environmental Justice Resource Study Area



CENSUS BLOCK GROUPS

0 0.5 1 Miles

DATA SOURCE: City of Stockton and San Joaquin County GIS Data

- Train Station
- UPRR Fresno Subdivision
- BNSF Stockton Subdivision
- Major Streets/Highways
- Mormon Slough
- Project Construction Limits
- Census Block Groups
- Study Area Half Mile Buffer
- Park
- Stockton

MAP CREATED ON: 2/1/2021

Impact Analysis

To determine the potential for the proposed Project to result in disproportionately high and adverse human health or environmental effects on minority and/or low-income populations, the Project effects discussed in the resource sections in Chapter 3, *Environmental Impact Analysis*, were reviewed, and the likelihood of any of these impacts to affect minority populations and/or low-income populations was assessed. The environmental justice impact analysis considers the USDOT Order 5610(b) definition of adverse effects, which are the totality of significant individual or combined negative environmental, human health effects of DOT activities.

A review of the temporary construction and permanent operational effects of the proposed Project was conducted, and the magnitude of the effects, whether effects are adverse or beneficial, the duration of effects (temporary or permanent), and the geographic location of the effects on the identified minority and low-income populations within the environmental justice RSA were identified. Where the proposed Project would result in no adverse effects on populations in general, and thereby not disproportionately affecting minority and/or low-income populations, no further analysis was conducted. Adverse effects in the environmental justice analysis were based on the following considerations:

- Effects that were minimized through Project BMP measures or resource-specific mitigation measures were evaluated to determine whether the measures (1) were equally applied to minority populations and low-income populations and non-minority populations and non-low-income populations and (2) if they addressed the concerns of the minority populations and low-income populations. If the mitigation measures were not successful in addressing (1) and (2) above, effects were considered adverse.
- Effects that were not substantially reduced through mitigation were considered adverse
- The analysis then considered if the proposed Project would result in disproportionately high and adverse human health or environmental effects on minority and/or low-income populations by asking the following questions:
- Would the adverse effects be predominantly borne by minority populations or low-income populations?
- Would adverse effects be suffered by minority populations and low-income populations and would those adverse effects be appreciably more severe or greater in magnitude than the adverse effect suffered by the non-low-income and non-minority populations in the affected area and the reference community?

Whether adverse effects would be disproportionately high and adverse includes considering the totality of:

- The location of adverse effect in relation to minority and low-income populations;
- The severity of the adverse effect and the success of the proposed mitigation measures in reducing the effect;

- Whether mitigation measures reduce impacts equally for both minority and low-income populations as for non-minority and non-low-income populations; and
- The Project benefits that would be received by minority populations and low-income populations.

5.3 Affected Environment

This section provides overall demographic information for the reference community and environmental justice RSA, and a more detailed presentation showing the distribution of minority and low-income populations in the environmental justice RSA.

5.3.1 MINORITY POPULATIONS

San Joaquin County has a population of 732,212 people and the environmental justice RSA has a total of 26,402 people. The minority population (67.6 percent of the total County population and 91.9 percent in the environmental justice RSA) is comprised of those who are Hispanic or Latino, Black or African American, American Indian or Alaska Native, Asian, Native Hawaiian or Pacific Islander, or some other race. Table 5.3-1 presents the race and ethnicity characteristics of San Joaquin County and the environmental justice RSA. While Hispanic or Latino populations comprise over 40 percent of the County population, Hispanic or Latino persons make up nearly 71 percent of the environmental justice RSA population. The environmental justice RSA also has a higher percentage of Black or African American populations than the County as a whole.

Table 5.3-1: Race and Ethnicity Characteristics in San Joaquin County and the Environmental Justice RSA

Race/Ethnicity	San Joaquin County		Resource Study Area	
	Total Estimate	Percentage of Population	Total Estimate	Percentage of Population
Total Population	732,212	100.0%	26,402	100%
White alone, non-Hispanic	237,887	32.4%	2,137	8.1%
Black or African American alone, non-Hispanic	49,926	6.8%	2,863	10.8%
Asian alone, non-Hispanic	110,164	15.0%	2,211	8.4%
Other[a]	32,979	4.5%	480	1.8%
Hispanic or Latino (all races)	301,256	41.1%	18,711	70.9%

Source: U.S. Census Table B03002 2018 ACS 5-Year Estimates

[a] Other" includes non-Hispanic Native Hawaiian and Other Pacific Islander alone, non-Hispanic American Indian and Alaska Native alone, non-Hispanic Some other race, and non-Hispanic Two or more races.

Race and Ethnicity Characteristics

Table 5.3-2 provides the race and ethnicity characteristics of each census tract block group within the environmental justice RSA. The northern section of the environmental justice RSA has a slightly lower percentage of minority populations compared to the rest of the environmental justice RSA.

Table 5.3-2: Race and Ethnicity Characteristics by Census Tract Block Group

Geography (CT/BG)[a]	Total Population	White Alone	Black/African American Alone	Asian Alone	Other[b]	Hispanic/ Latino (All Races)
CT 1/BG 1	1,443	18.6%	35.4%	13.0%	0%	33.0%
CT 1/BG 2	944	13.1%	25.5%	13.7%	7.5%	40.1%
CT 1/BG 3	896	0%	0.4%	0%	0.6%	99.0%
CT 1/BG 4	772	10.4%	20.1%	7.9%	11.1%	50.5%
CT 4.02/BG 1	889	31.8%	19.1%	30.4%	0%	18.7%
CT 4.02/BG 2	1,045	14.6%	10.0%	1.8%	2.1%	71.5%
CT 5/BG 1	1,304	17.2%	2.1%	5.4%	0%	75.3%
CT 5/BG 2	1,161	13.9%	2.4%	3.4%	0.4%	79.9%
CT 6/BG 1	816	3.9%	5.9%	1.7%	0%	88.5%
CT 6/BG 2	992	3.6%	1.7%	15.0%	1.6%	78.0%
CT 7/BG 1	811	0%	14.2%	19.7%	1.2%	64.9%
CT 7/BG 2	1,099	2.0%	1.6%	20.8%	0.4%	75.2%
CT 16/BG 2	1,374	7.3%	14.3%	0%	2.3%	76.1%
CT 19/BG 2	1,773	7.8%	14.2%	0%	2.1%	75.9%
CT 19/BG 3	1,067	6.5%	23.9%	1.6%	0%	68.0%
CT 19/BG 4	987	2.3%	11.6%	5.1%	0%	81.0%
CT 22.01/BG 1	1,078	3.5%	19.7%	1.0%	5.6%	70.1%
CT 22.01/BG 2	1,737	3.9%	4.7%	13.8%	0%	77.5%
CT 22.02/BG 1	1,582	0.8%	3.9%	8.7%	2.9%	83.8%
CT 23/BG 1	1,988	3.4%	2.3%	9.2%	0%	85.1%
CT 23/BG 2	1,543	7.3%	4.3%	14.1%	1.5%	72.9%
CT 23/BG 3	1,101	31.8%	19.1%	30.4%	0%	18.7%

Source: U.S. Census Table B03002 2018 ACS 5-Year Estimates
[a] CT = Census Tract; BG = Block Group
[b] "Other" includes non-Hispanic Native Hawaiian and Other Pacific Islander alone, non-Hispanic American Indian and Alaska Native alone, non-Hispanic Some other race, and non-Hispanic Two or more races.

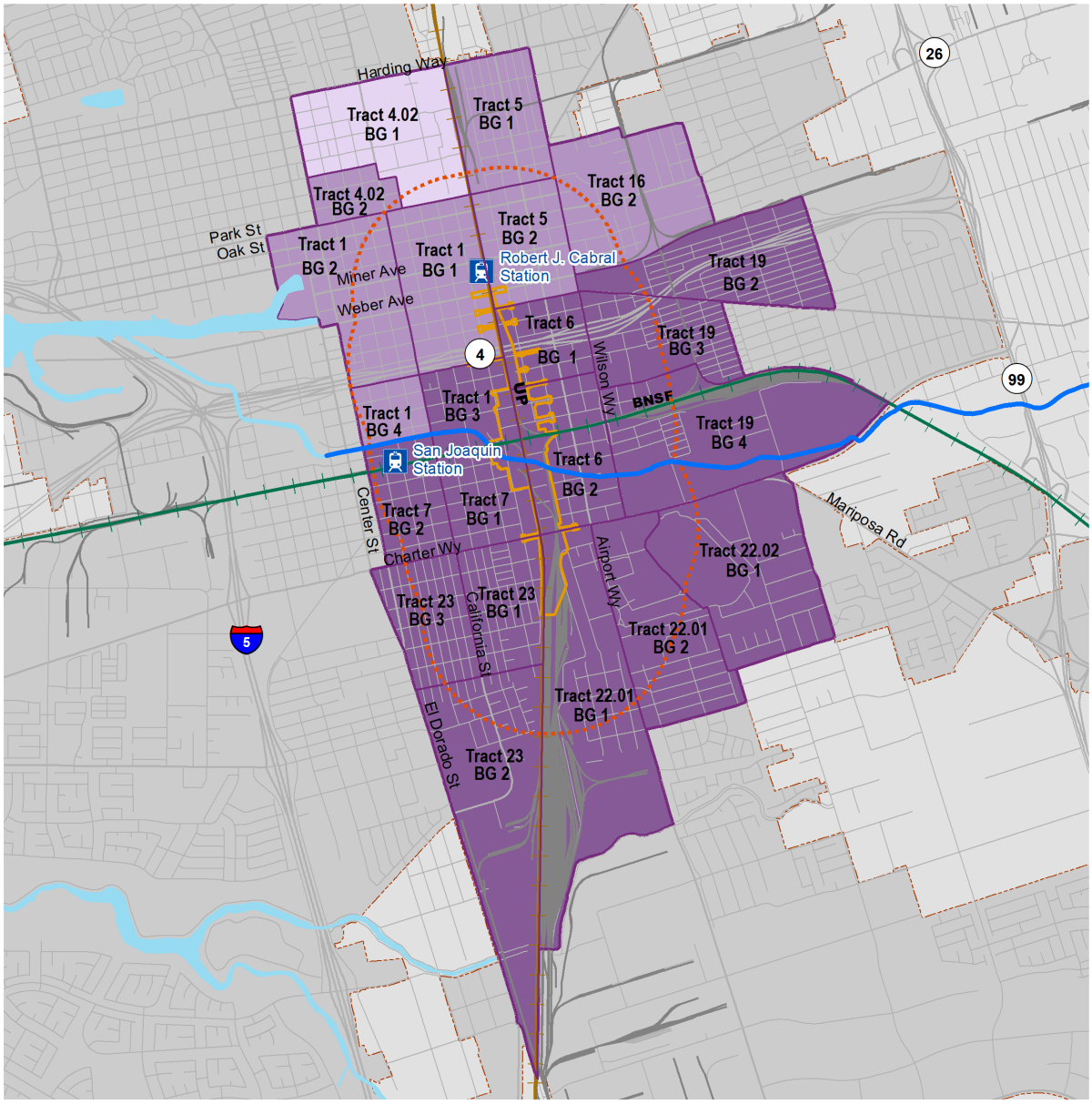
The areas closer to the construction limits have a larger percentage of Black or African American persons in comparison to the County overall. The central section has a substantially larger percentage of overall minority population when compared to the County overall, and the areas closer to the construction limits have a larger percentage of Hispanic or Latinos populations in comparison to the County as a whole. The southern section is also largely Hispanic or Latino, and the areas closer to the construction limits have a larger percentage of Hispanic or Latino persons than the other areas of the environmental justice RSA.

Further, Table 5.3-2 shows that all 22 census tract block groups that comprise the environmental justice RSA exceed the 50-percent minority population threshold. These individual census tract block groups are compared to the County minority percentage of 67.6 percent. Based on this comparison, all census tract block groups, that is, the entirety of the environmental justice Figure 5.2-2RSA, is considered a high-minority area since all minority percentages exceed that of the County.

Figure 5.2-2 provides a visual representation of the locations of these census tract block groups and to what degree the minority percentages exceed the County threshold. As Figure 5.2-2 illustrates, the northern section of the environmental justice RSA has slightly lower percentages of minority populations compared to the balance of the environmental justice RSA.

The data in Table 5.3-2 also shows that all except three census tract block groups have percentages of Hispanic or Latino populations that exceed the County percentage of 41.4 percent, revealing that the proposed Project is located in a predominantly Hispanic or Latino community. Higher percentages of Hispanic or Latino persons reside closer to SR 4 and the southern section of the environmental justice RSA. Twelve of the 22 census tract block groups also have percentages of Black or African American populations that exceed the County percentage of 6.8 percent. There are large concentrations of Black or African American populations just north of SR 4 and west of the Cabral Station in Downtown Stockton. Figure 5.3-2 through Figure 5.3-5 show the distribution of the Hispanic or Latino, Black or African American, Asian, and other non-White populations within the environmental justice RSA, respectively.

Figure 5.3-1: All Minority Populations in Environmental Justice Resource Study Area



MINORITY POPULATION

0 0.5 1 Miles

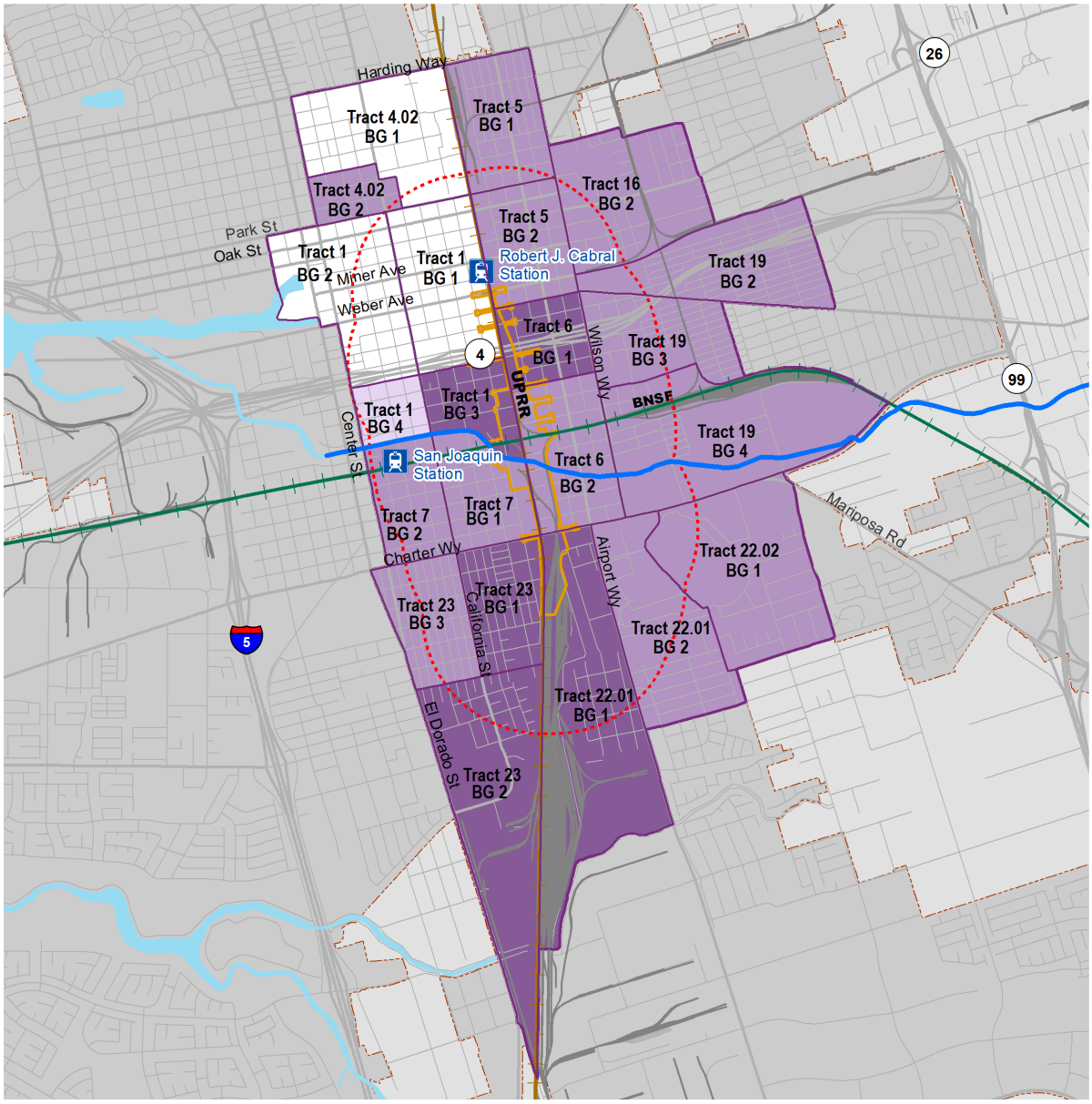
DATA SOURCE: City of Stockton and San Joaquin County GIS Data (2019), ACS 5-Year Estimates Table # B03002

Train Station
Mormon Slough
Major Streets/Highways
UPRR Fresno Subdivision
BNSF Stockton Subdivision
Study Area Half Mile Buffer
Project Construction Limits
Stockton

Minority Population
(all minority groups)
less than SJ County (67.6%)
67.6% - 80%
80.1% - 90%
90.1% - 100%

MAP CREATED ON: 2/1/2021

Figure 5.3-2: Hispanic or Latino Populations in Environmental Justice Resource Study Area



MINORITY POPULATION
HISPANIC OR LATINO

0 0.5 1 Miles

DATA SOURCE: City of Stockton and San Joaquin County GIS Data (2019), ACS 5-Year Estimates Table # B03002

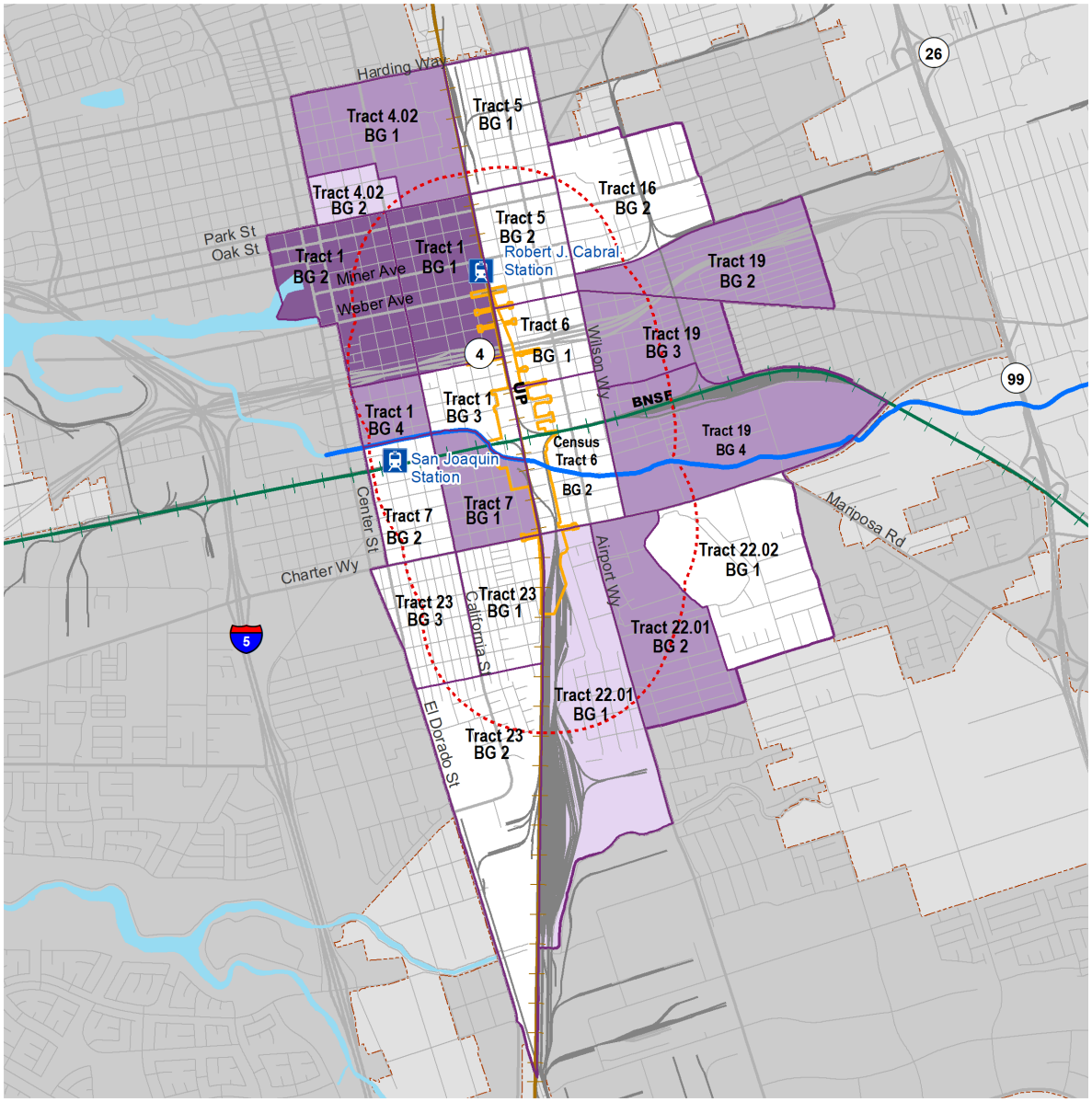
- Train Station
- Mormon Slough
- Major Streets/Highways
- UPRR Fresno Subdivision
- BNSF Stockton Subdivision
- Project Construction Limits
- Study Area Half Mile Buffer
- Stockton

Minority Population (Hispanic or Latino)

- less than SJ County (41.1%)
- 41.1% - 60%
- 60.1% - 80%
- 80.1% - 100%

MAP CREATED ON: 2/1/2021

Figure 5.3-3: Black or African American Populations in Environmental Justice Resource Study Area



MINORITY POPULATION
BLACK OR AFRICAN AMERICAN

0 0.5 1 Miles

DATA SOURCE: City of Stockton and San Joaquin County GIS Data (2019), ACS 5-Year Estimates Table # B03002

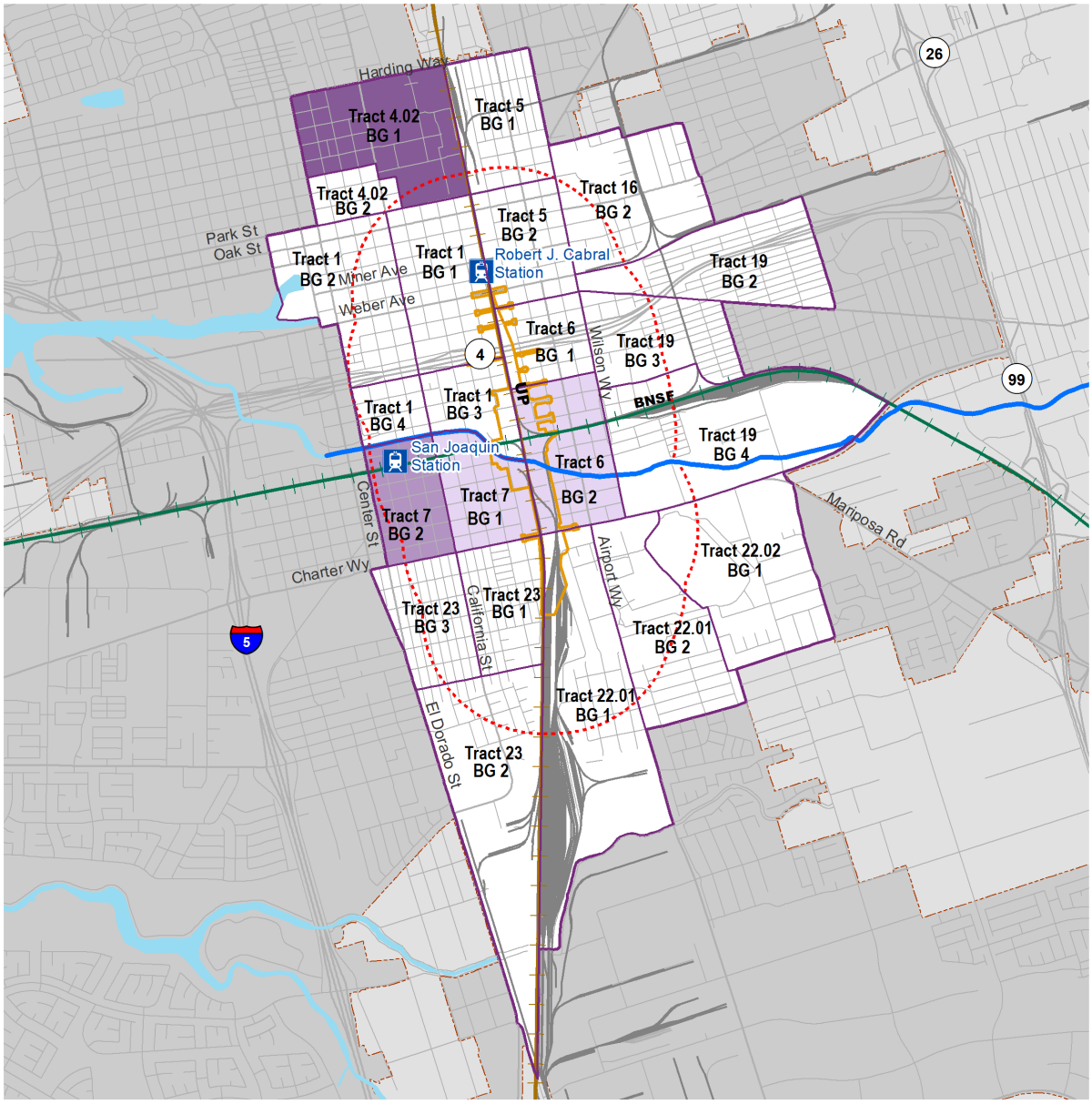
- Train Station
- Mormon Slough
- Major Streets/Highways
- UPRR Fresno Subdivision
- BNSF Stockton Subdivision
- Project Construction Limits
- Study Area Half Mile Buffer
- Stockton

Minority Population
(Black or African American)

- less than SJ County (6.8%)
- 6.8% - 12%
- 12.1% - 24%
- 24.1% - 36%

MAP CREATED ON: 2/1/2021

Figure 5.3-4: Asian Populations in Environmental Justice Resource Study Area



MINORITY POPULATION
ASIAN

0 0.5 1 Miles

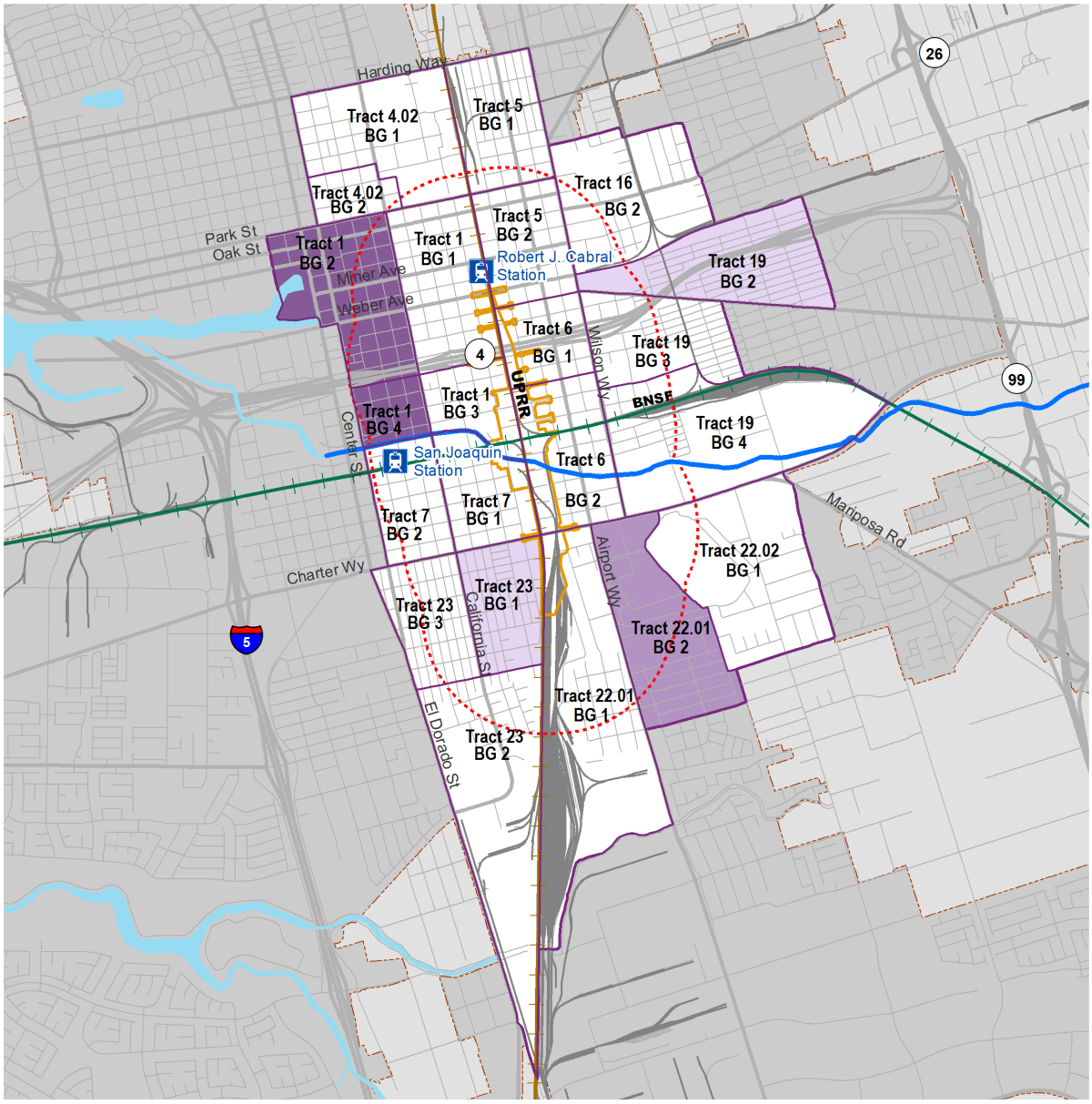
DATA SOURCE: City of Stockton and San Joaquin County GIS Data (2019), ACS 5-Year Estimates Table # B03002

Train Station
Mormon Slough
Major Streets/Highways
UPRR Fresno Subdivision
BNSF Stockton Subdivision
Project Construction Limits
Study Area Half Mile Buffer
Stockton

Minority Population
(Asian alone)
less than SJ County (15%)
15% - 20.7%
20.8% - 25.6%
25.7% - 30.5%

MAP CREATED ON: 2/1/2021

Figure 5.3-5: Other Minority Populations in Environmental Justice Resource Study Area



MINORITY POPULATION
OTHER

0 0.5 1 Miles

DATA SOURCE: City of Stockton and San Joaquin County GIS Data (2019), ACS 5-Year Estimates Table # B03002

- Train Station
- Mormon Slough
- Major Streets/Highways
- UPRR Fresno Subdivision
- BNSF Stockton Subdivision
- Project Construction Limits
- Study Area Half Mile Buffer
- Stockton

Minority Population (Other)

- less than SJ County (4.5%)
- 4.5% - 8.3%
- 8.4% - 11.6%
- 11.7% - 14.9%

MAP CREATED ON: 2/1/2021

5.3.2 LOW-INCOME POPULATIONS

Within San Joaquin County as a whole, 12.7 percent of the 168,502 households in the County (as per the 2018 ACS 5-year estimates) have household incomes that fall below the poverty level. Figure 5.3-6 shows the low-income populations present in the environmental justice RSA. Note that poverty is determined by occupied housing units (that is, households). Within the environmental justice RSA, almost exactly one-third of the households have incomes below the poverty level (see Table 5.3-3).

Table 5.3-3: Poverty Status of San Joaquin County and the Environmental Justice Resource Study Area

Poverty	San Joaquin County		Study Area	
	Total Estimate	Percentage of Population	Total Estimate	Percentage of Population
Total Households	168,502	100.0%	5,208	100.0%
Total Households Below Poverty Level	21,450	12.7%	1,733	33.3%

Source: U.S. Census Table B17010 2018 ACS 5-Year Estimates

5.3.1 OTHER INDICATIONS OF MINORITY AND LOW-INCOME POPULATIONS IN THE ENVIRONMENTAL JUSTICE RESOURCE STUDY AREA

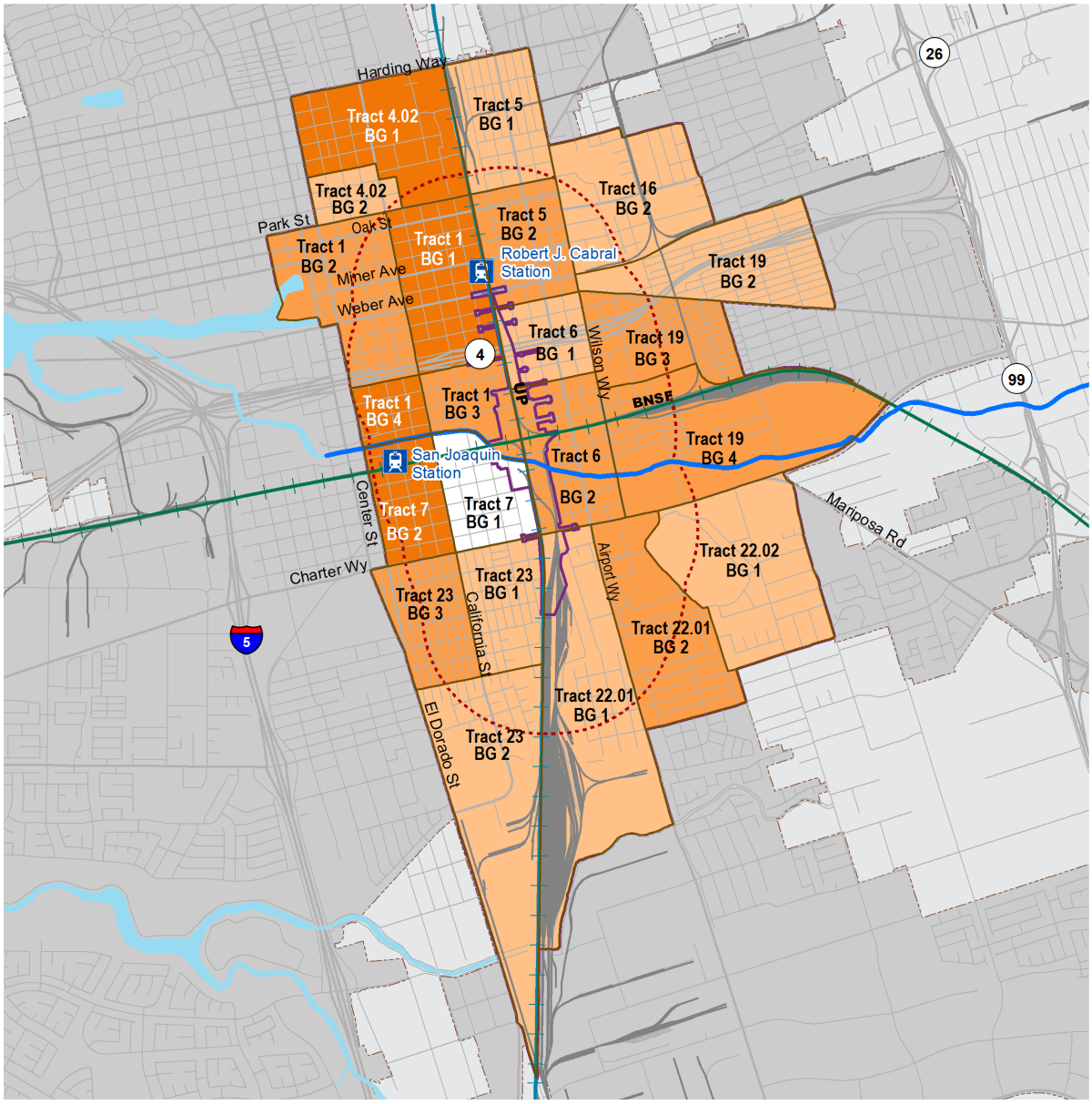
Limited English Proficiency

The communities that surround the Stockton Diamond have a high percentage of residents that speak Spanish compared to San Joaquin County as a whole. In the environmental justice RSA, 51.1 percent of the households speak Spanish, as per the 2018 ACS 5-year estimates, and 38 percent of these Spanish-speaking households are considered ‘limited English proficiency” households, meaning that they speak English “not very well” or “not at all”. In the environmental justice RSA, 22.8 percent of all households are considered LEP households (not just Spanish-speaking households). Within the County, 26.0 percent of the households speak Spanish, and 20.6 percent of the Spanish-speaking households are considered LEP households. Overall,8.3 percent of the County households are considered LEP households (not just Spanish-speaking households).

Community Resources

In the environmental justice RSA, there are a number of community resources that provide community gathering places or neighborhood services for traditionally underserved populations – typically minority and low-income populations. The dispersion of these resources, which include faith-based and social service organizations, is shown in Figure 5.3-7. As project development advances, SJRRC and CHSRA will incorporate strategies to reach out to these organizations as part of the project’s Communications Plan to engage the local communities. See Chapter 8, *Public and Agency Involvement*, for more information on the Communications Plan.

Figure 5.3-6: Low-Income Populations in Environmental Justice Resource Study Area



LOW INCOME POPULATIONS

0 0.5 1 Miles

DATA SOURCE: City of Stockton and San Joaquin County GIS Data (2019), ACS 5-Year Estimates Table # B17010

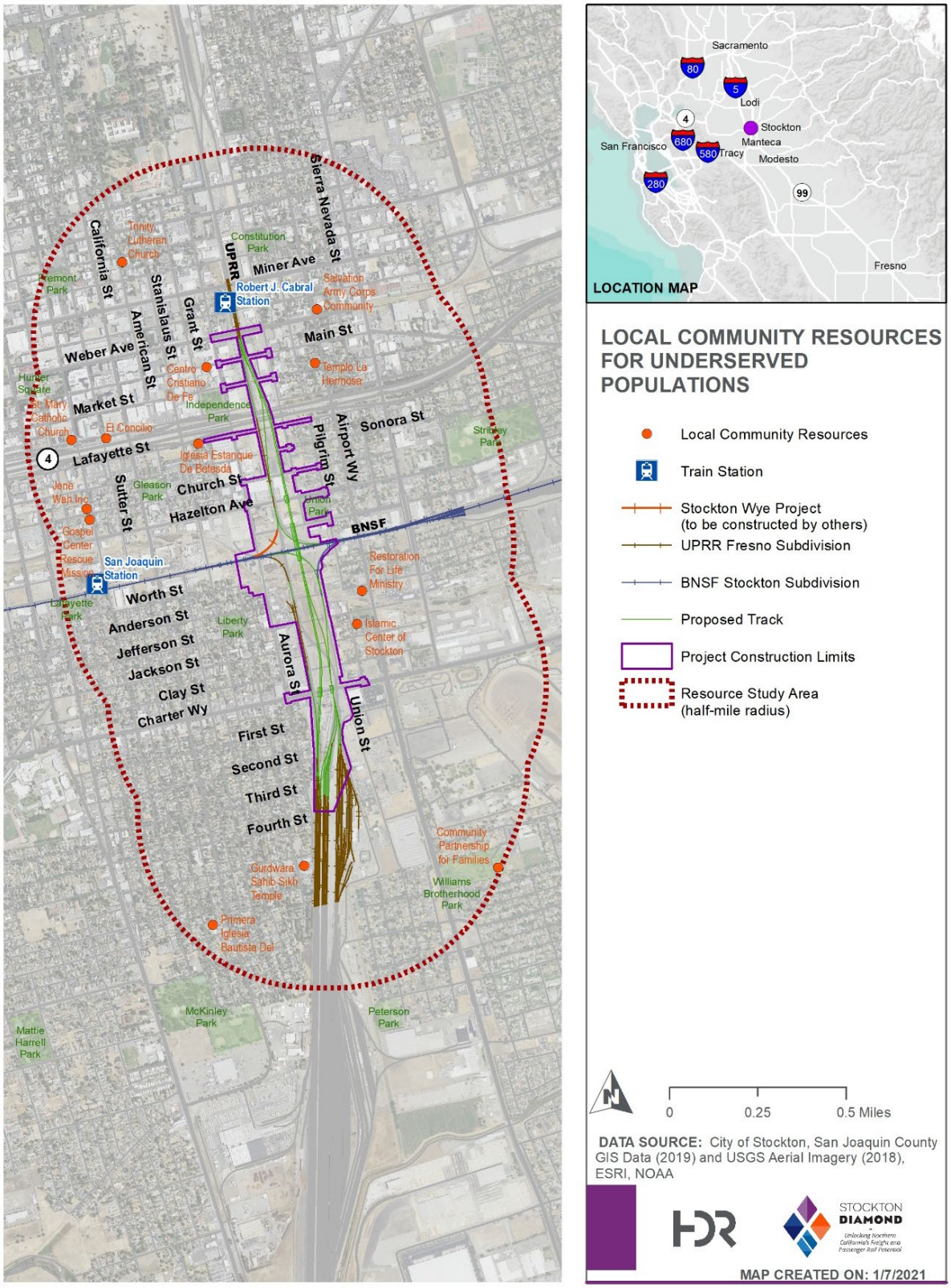
- Train Station
- Mormon Slough
- Major Streets/Highways
- UPRR Fresno Subdivision
- BNSF Stockton Subdivision
- Study Area Half Mile Buffer
- Project Construction Limits
- Park
- Stockton

HH Below Poverty Level

- less than SJ County (12.7%)
- 12.7 - 30%
- 30.1 - 50%
- 50.1 - 80%

MAP CREATED ON: 2/1/2021

Figure 5.3-7: Community Resources for Underserved Populations in Environmental Justice Resource Study Area



Transient Populations

The environmental justice RSA also includes a large unhoused transient population that inhabits the dry Mormon Slough that runs through the center of the environmental justice RSA just south and west of the Stockton Diamond. These populations are not legally permitted to live in this location and may or may not have been counted by the U.S. Census Bureau; however, as transient populations, they are protected by the provisions of environmental justice. Figure 5.3-8 is a photo of the proposed Project Area illustrating the locations of the existing homeless encampments within the Mormon Slough. Generally, as the photo shows, the unhoused transient populations are occupying the part of the slough to the west of the existing UP Fresno main line tracks.

Figure 5.3-8: Existing Transient Population Homeless Encampments in the Mormon Slough

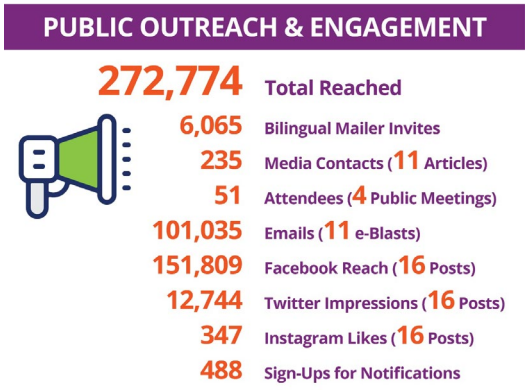
5.4 Environmental Justice Engagement

This section described the ongoing outreach activities to engage the local community in the proposed Project planning and assessment of environmental effects.

5.4.1 PROJECT SCOPING

A formal public scoping process was conducted to build awareness of the proposed Project at the start of the technical studies for a combined Draft EIR and Environmental Assessment (EA) to meet the requirements of CEQA and the National Environmental Policy Act (NEPA), respectively. The public scoping period also incorporated opportunities for the project team to identify the range of issues pertinent to the proposed Project and obtain public input into development of the environmental documentation. Due to the global pandemic and the Governor's stay-at-home orders and health mandates, the Project Scoping activities focused on a multi-faceted communications program to reach and inform diverse audiences of the initiation of the Project while remaining virtual.

On Aug. 19, 2020, the SJRRC issued a Notice of Preparation of an EIR which was posted at the State Clearinghouse (SCH#2020080321) and circulated to public agencies and other interested parties in compliance with Section 15082(a) of the CEQA Guidelines. A formal 45-day public review and comment period followed, from August 19 to October 3, 2020, during which interested members of the public were able to view on-line materials on the project website (www.stocktondiamond.com) and attend virtual public scoping meetings. The normal 30-calendar-day scoping period required under CEQA was extended an additional 15 calendar days to allow stakeholders and members of the public to provide their input on the proposed Project. There were three virtual public scoping meetings, two in English and one in Spanish, during which the public was encouraged to ask questions, raise concerns, and submit formal public comments.



Several promotional tactics were deployed to inform the public of the proposed Project and the virtual public scoping meetings, including alerts on the project's bilingual website, SJRRC/ACE social media platforms, media releases and ads, a direct mailer, electronic notices, and stakeholder coordination through telephone discussions. These efforts resulted in a total reach of over 275,000 community members through the following:

- 16 Social Media posts and 1 Social Media advertisement on:
  - https://www.facebook.com/AltamontCorridorExpress/
  - https://www.instagram.com/altamontcorridorexpress/
  - https://twitter.com/ACE_train

- 11 Electronic notices (eight from the Project, one from the Latino Times, and two from SJJRC to ACE ridership)
- 6,065 mailers distributed to the Project's contact database (regional stakeholders / property owner/occupants within a one-mile radius)
- Two advertisements (*Stockton Record* on August 19, 2020 and *Vida en el Valle* on August 26, 2020)
- Three press releases distributed to 235 media outlets resulting in 11 earned articles

Comments could be submitted through several different media during the scoping period in an effort to provide convenience to participants. Electronic comment submittal was established through the website, email, and virtual public meetings. Comments were also able to be submitted via hard copy mailers or via voicemail on the Project information line.

Over the course of the public comment period, SJRRC received 80 comments. A total of 67 comments came from the public and scoping meetings.

In early 2021, the project team made a decision to advance a Draft EIR only, followed by a separate Draft EA to meet NEPA requirements.

5.4.2 REVIEW OF THE DRAFT EIR

The Draft EIR was made available for public review for a 45-day period from March 15, 2021 through April 29, 2021. To raise awareness of the availability of the Draft EIR for public review, several notices and other activities were undertaken pursuant to CEQA requirements. All communications were implemented in English and Spanish and included the following:

- Two Notice of Availability (NOA) publication advertisements (Stockton Record and Vida en el Valle)
- One press release distributed to 235 media outlets
- Eight bilingual standard posts (including four boosted posts) on three social media platforms and one bilingual social media advertisement
- Eight email blasts to the proposed Project's stakeholder database containing 600 contacts
- One email blast to the Latino Times database containing over 100,000 readers
- Multiple email blasts to the ACE ridership of 600 contacts
- 5,463 mailers with a perforated comment card distributed to the Project contact database (regional stakeholders, property owners, and occupants within a one-mile radius of the proposed Project Study Area)
- A bilingual poster with comment cards displayed at 13 repositories/stakeholder locations in Stockton (see list below). The poster was also emailed to the Project's stakeholder database to help post via their locations and established online tools:
    - Cafe Coop (42 N Sutter Street #208, Stockton, CA)

- Catholic Charities Stockton (1106 N El Dorado Street, Stockton, CA)
- Cesar Chavez Central Library (605 N El Dorado Street, Stockton, CA)
- Community Partnership for Families: Dorothy L. Jones/CUFF Family Resource Center (2044 Fair Street, Stockton, CA)
- Fair Oaks Library (2370 E Main Street, Stockton, CA)
- Huddle Cowork by Launch Pad (110 N San Joaquin Street, 2nd Floor, Stockton, CA)
- In-Season Market (215 E Alpine Avenue, Stockton, CA)
- Maya Angelou Branch Library (2324 Pock Lane, Stockton, CA)
- Restoration for Life Ministries (1234 E Anderson Street, Stockton, CA)
- San Joaquin County (44 N San Joaquin Street, Stockton, CA)
- Stockton City Hall (425 N El Dorado Street, Stockton, CA)
- Troke Library (502 W Benjamin Holt Drive, Stockton, CA)
- Weston Ranch Branch Library (4606 McCuen Avenue, Stockton, CA)

- A mass text alert sent from a local Stockton realtor and friend of an SJRRC employee to 3,128 local property owners. The Project team confirmed there were no privacy violations prior to the text being sent on April 20, 2021.

The Draft EIR was also made available on the Project and SJRRC websites, (https://stocktondiamond.com/), on CD if requested, and printed copies of the Draft EIR along with comment cards were available for review at:

- Catholic Charities Diocese of Stockton (1106 N. El Dorado Street, Stockton, CA)
- Café Coop (42 N Sutter Street, Stockton, CA)
- El Concilio (445 N San Joaquin Street, Stockton, CA)
- Bishop Bridges, Restoration for Life Ministries (1234 Anderson Street, Stockton, CA)
- San Joaquin Regional Rail Commission (949 E Channel Street, Stockton, CA)
- California High Speed Rail Authority (770 L Street, Suite 620, Sacramento, CA)
- Stockton City Hall (425 N El Dorado Street, Stockton, CA)
- San Joaquin County (44 N San Joaquin Street, Stockton, CA)

In an effort to reach all interested and potentially impacted public members during the circulation period for the Draft EIR, as well as allow convenient participation in a safe environment while social distancing due to COVID-19 mandates, the Project team identified additional engagement opportunities, including:

- Hosting a bilingual, virtual public meeting in English and in Spanish concurrently.
- Developing a Citizen's Guide to serve as a quick reference about the Project including local benefits, key findings of the Draft EIR, and details on how to comment. The guide condensed

and streamlined very technical information with simplified content and graphics to tell the story to the public visually. An electronic copy was distributed to key stakeholders via email blasts as well as posted on the Project website and social media. Hardcopies of the guide were also placed at the eight repository locations (listed above) and the following eight additional locations throughout Stockton:

- Fair Oaks Library (2370 E Main Street, Stockton, CA)
- Cesar Chavez Central Library (605 N El Dorado Street, Stockton, CA)
- Troke Library (502 W Benjamin Holt Drive, Stockton, CA)
- Weston Ranch Branch Library (4606 McCuen Avenue, Stockton, CA)
- Maya Angelou Branch Library (2324 Pock Lane, Stockton, CA)
- In-Season Market (215 E Alpine Avenue, Stockton, CA)
- Community Partnership for Families: Dorothy L. Jones/CUFF Family Resource Center (2044 Fair Street, Stockton, CA)
- Huddle Cowork by Launch Pad (110 N San Joaquin Street, 2nd floor, Stockton, CA)

The Project Team has hosted five virtual stakeholder forums since the release of the Draft EIR, including:

- Downtown Stockton Alliance – Virtual presentation on March 17, 2021 to give an overview of the Project and a summary of the Draft EIR's key findings.
- Rise Stockton – Virtual presentation on April 15, 2021 to give an overview of the Project and a summary of the Draft EIR's key findings.
- Stockton Rotary – Virtual presentation on April 21, 2021 to give an overview of the Project and a summary of the Draft EIR's key findings.
- Catholic Charities Healthy Neighborhood Collaborative – Virtual presentation on April 21, 2021 to remind attendees that there was still time to submit input and how to comment.
- San Joaquin Partnership – Virtual presentation on April 22, 2021 to remind attendees that there was still time to submit input and how to comment.

5.4.3 STAKEHOLDER WORKING GROUP

The Stakeholder Working Group (SWG) consists of key community organizations to identify and address project-related potential issues and to relay project milestone information to the community. Some of the SWG organizations include the Asian Pacific Islander Association, the Lao Family Community Empowerment, and the San Joaquin County Hispanic Chamber of Commerce. These Stakeholder Working Group meetings were timed to provide opportunities for two-way communications at key milestones. While presentations were incorporated into these meetings, all participants were encouraged to ask questions and provide comments both through the webinar application as well as by telephone.

~~During the public comment period, the project team held a meeting with SWG organizations, where the organizations received project updates, provided their inputs, and relayed project information to their respective groups. During the public scoping period, an SWG meeting was held to help identify and address potential project issues and impacts and to assist with relaying pertinent project milestone information to the community.~~

A second SWG meeting was held on January 14~~2~~, 2021, to summarize environmental findings, review Project visuals, and notify SWG of upcoming key milestones, including the Draft EIR public review.

5.4.4 OTHER PLANNED ACTIVITIES

After the public scoping period, the project team implemented a Communications Plan which was developed to provide opportunities for public engagement and input throughout the planning and environmental review process. Its key objective was to use multilingual traditional and on-line digital engagement strategies in order to broaden public engagement. See Chapter 8, *Public and Agency Involvement*, for more information on the Communications Plan.

5.5 Assessment of Effects

This section summarizes potential adverse effects of the No Project Alternative and the proposed Project on human health and environmental resources. The majority of the environmental justice RSA includes minority and low-income populations; therefore, the environmental justice analysis focuses on general community impacts and benefits. Specific locations of project effects for the purpose of identifying potentially disproportionately high and adverse effects are limited, and included where possible, since the communities have similar demographic compositions in the environmental justice RSA. After considering the totality of the adverse effects, beneficial effects, and cumulative effects, a determination is made whether the proposed project would result in a disproportionately high and adverse effect on minority and low-income populations.

5.5.1 NO PROJECT ALTERNATIVE

Under the No Project Alternative, the project would not be implemented and none of the project improvements would be developed. There would be no project-related construction activities and all roadways and existing rail lines within the project area would continue to operate as they currently do.

While there would be no short-term construction impacts to the minority and low-income populations in the environmental justice RSA, there would also be no benefits to these communities. Freight and passenger rail trains would continue to experience delays due to conflicts at the Stockton Diamond. Existing roadway-rail crossings would continue to function as they currently do, with lengthy gate-down time affecting local mobility and circulation. Safety at the crossings would not improve.

5.5.2 PROPOSED PROJECT

Under the proposed Project, the UP Fresno Subdivision and BNSF Stockton Subdivision would be separated with a flyover at the Stockton Diamond. In addition, new grade separations (undercrossings) at East Hazelton Avenue and East Scotts Avenue would be constructed. Two existing at-grade crossings would be permanently closed at East Church Street and East Lafayette Street. A detailed analysis of the project effects associated with these improvements is included in Chapter 3, *Environmental Impact Analysis*.

Table 5.5-1 provides a summary of the environmental resource areas analyzed in this EIR and for which an adverse effect would result with implementation of the proposed Project prior to the implementation of BMPs or mitigation (identified as a "potential adverse effect"). While all resource areas are listed, those with relevance to the minority and/or low-income populations and which may inform the determination of potentially disproportionately high and adverse effects on these populations are identified.

Table 5.5-1: Summary of Environmental Resource Areas Included in Environmental Justice Analysis

Environmental Resource Area	Potential Adverse Effect and Included in EJ Analysis?
Aesthetics	No
Air Quality	Yes- temporary dust impacts
Biological Resources	No
Greenhouse Gas Emissions	No
Cultural Resources	No
Energy	No
Geology, Soils, and Paleontology	No
Hazards and Hazardous Materials	Yes – disturbance and transport of hazardous materials
Hydrology and Water Quality	No
Land Use and Planning	Yes – permanent street closures
Noise and Vibration	Yes - noise impact on sensitive receptors
Population and Housing	Yes – temporary displacement of transient communities
Public Services	Yes – temporary impact to public service
Recreation	Yes – temporary impact to recreation
Transportation	Yes – temporary impact to traffic and circulation
Tribal Cultural Resources	No
Utilities and Service Systems	Yes – temporary impact to utilities and service systems

As discussed in Section 5.5, *Environmental Justice Engagement*, large percentages of both minority and low-income populations reside within the environmental justice RSA, and higher percentages than San Joaquin County. Project effects, both positive (benefits) and adverse (burdens) may be experienced disproportionately by low-income and minority communities. Therefore, this section evaluates the potential that the proposed Project results in disproportionately high and adverse effects on minority and/or low-income populations. Environmental resource areas identified in Table 5.5-1 are analyzed in the sections below.

Air Quality

Project construction activities have the potential to generate emissions from equipment used during construction, as well as to generate dust. Likely air pollutants from construction include the following: PM dust and criteria pollutants from fuel combustion. Table 3.8-6 through Table 3.8-8 (in Section 3.2, *Air Quality*) indicate that, prior to minimization, the annual emissions associated with construction of all three design options would exceed the San Joaquin Valley Air Pollution District (SJVAPCD) thresholds for NO_X. However, with the implementation of Measures BMP AQ-1 and BMP AQ-2, annual construction emissions associated with all three design options would be reduced to below SJVAPCD thresholds.

In addition, Project construction could result in odor emission from construction equipment and vehicles. It is anticipated that these odors would be short-term, limited in extent at any given time, and distributed throughout the environmental justice RSA during the duration of construction, and, therefore, would not affect a substantial number of individuals.

Once complete, the proposed Project would reduce the local and regional air quality emissions because the reduction in crossing occupancy would improve on-road traffic flow and reduce vehicle idling in the environmental justice RSA. The proposed Project would not result in disproportionately high and adverse effects on minority or low-income populations related to air quality.

Hazards and Hazardous Materials

Construction would involve the handling, storage, transport, and disposal of hazardous materials. During construction, the use of hazardous materials and substances would be required and hazardous wastes would be generated during operation of construction equipment. The potential hazards generated by the routine transport, use, and disposal of hazardous materials, contaminated soils, and/or contaminated groundwater during construction are not anticipated to have a significant impact, if adequately managed according to applicable laws and regulations and industry BMPs.

In addition to the use of construction-related hazardous materials, contaminated soil and groundwater are also expected to be encountered during soil excavations and dewatering activities, which would require specialized handling, treatment, and potentially off-site transport and disposal. Multiple hazardous materials listings exist within the hazards and hazardous materials RSA. However, with the implementation of Measures MM HAZ-1 through MM HAZ-7, these short-term impacts would be mitigated.

Longer term operational activities and practices involving routine transport, use, and storage of potentially hazardous materials for railroad maintenance, including shipments in tankers on the railroads, would remain similar to existing conditions. Future operations within the environmental justice RSA would involve routine transport of hazardous materials and wastes, such as gasoline, brake fluids, and coolants. Heavy maintenance activities would continue off site at existing maintenance facilities. As discussed, the proposed Project would comply with standard regulations and policies regarding the routine transport, use, storage, handling, and disposal of potentially hazardous materials during operations in order to protect human health and the environment. Therefore, the proposed Project does not result in disproportionately high and adverse effects on minority or low-income populations related to hazards and hazardous materials.

Land Use and Planning

Temporary road closures during construction would occur as a result of the proposed Project. However, with the implementation of Measure BMP TRA-7 (see Section 3.15, *Transportation*), a Transportation Management Plan (TMP), these short-term impacts would be reduced. In addition, no more than one road would be closed at a time during construction to minimize traffic interruptions. Where sidewalks need to be closed, only one side of the street would be closed at a time to maintain access along the street.

The proposed Project would permanently convert several industrial parcels to a transportation use, reducing the available industrial land use in the area by 10.87 acres. The proposed Project would not acquire any residential properties; therefore, there would be no impacts to residents nor residential land uses in the environmental justice RSA. A total of six businesses would require relocation. The City has identified available industrial zoned properties elsewhere in the City that are suitable for relocation of these six displaced businesses. All relocation of these displaced businesses would be minimized through the implementation of Measure BMP LU-1, which requires that all business displacements conform with the Uniform Relocation Assistance and Real Property Acquisition Policies Act. The affected businesses are not unique—generally auto- and truck-related services—and would not have relocation challenges. Moreover, these businesses serve larger areas and their relocation would not affect the local neighborhoods. The partial property acquisitions would not affect any existing business. Therefore, the proposed Project does not result in disproportionately high and adverse effects on minority or low-income populations related to land use and planning.

Noise and Vibration

The proposed Project would result in both permanent (operational) and temporary (construction) noise impacts due to the close proximity of sensitive noise receptors, that is, local residences, to the project construction limits. The proposed Project would result in a total of nine residences with moderate noise impacts. These consist of four residences (one single-family and one multi-family residence comprised of three residences) located along the northbound side of the proposed tracks between East Lafayette Street and East Hazelton Avenue, and five residences (three single-family

homes and one multi-family residence comprised of two residences) located south of the Stockton Diamond, between East Anderson Street and East Charter Way.

In addition, the proposed Project would project moderate noise impacts at two institutional receivers – Faith Tabernacle Assembly located on East Anderson Street and the Islamic Center of Stockton located on South Pilgrim Street.

Severe impacts are projected at twelve single-family homes located between East Jefferson Street and East Clay Street, and between the railroad corridor and South Pilgrim Street. With the implementation of Measure MM NV-3, requiring that building façade improvements be installed in the residential properties that would be exposed to severe noise impacts, the interior noise levels at these residences would be mitigated.

All severe noise impacts are impacts on residences located in close proximity to the railroad corridor between East Jefferson Street and East Clay Street, and between the railroad corridor and South Pilgrim Street. Along this stretch, some sensitive receptors are located less than 300 feet from the new at-grade alignment for connecting track, which is east of the proposed elevated main track flyover structure.

The 23 moderate and severe impacts are located in high-minority areas, as is the majority of the environmental justice RSA; however, they are located in census tract block groups that have lower percentages of low-income households than many other census tract block groups in the environmental justice RSA. With the implementation of Measure MM NV-3, which includes noise abatement strategies to lessen the adverse noise impacts, these long-term impacts would be mitigated.

During construction, there would be adverse noise and vibration effects that require mitigation (Measures MM NV-1 and MM NV-2). The operation of certain construction equipment and construction activities could generate noise exposure exceeding FTA thresholds for residences within 135 to 270 feet of a construction site. The potential for noise impacts would be greatest during structures work at locations where pile driving is required for bridge construction. With the exception of the viaduct structure option, which may require pile driving along the entire length of the flyover, bridge construction that requires extensive pile driving would not be adjacent to sensitive receptors. For the embankment and retaining wall structure options, these sections of the bridge construction requiring pile driving would be at the center of the flyover and at East Charter Way. Measure MM NV-1 provides a Noise Control Plan that specifically states that the use of impact pile drivers shall be avoided at night and, where possible, near noise-sensitive areas. Quieter alternatives (for example, drilled piles) could be used where geological conditions permit.

Also, it is expected that ground-borne vibration from construction activities would cause only intermittent localized disturbance along the rail corridor. It is possible that construction activities involving pile drivers occurring at the edge of, or slightly outside of, the current right-of-way could result in vibration damage, and damage from construction vibration would be a potentially significant impact. As such, construction of the proposed Project could generate excessive ground-borne vibration resulting in an impact. Measure MM NV-2 is proposed to reduce impacts on vibration

during construction. Measure MM NV-1 provides a Vibration Control Plan that states that the use of impact pile drivers shall be avoided, where possible, near vibration-sensitive areas or use alternative construction methods (for example, drilled piles) where geological conditions permit. Minority and low-income populations would experience the noise impacts associated with the proposed Project; however, with the incorporation of mitigation, the adverse effects would be minimized to the extent possible. These impacts are distributed between two neighborhoods on the east side of the project construction limits, both with similar minority and low-income composition as the balance of the environmental justice RSA. Since there are no non-environmental justice communities in the environmental justice RSA, any impacts would be borne by minority and/or low-income populations. Therefore, the proposed Project does not result in disproportionately high and adverse effects on minority or low-income populations related to noise and vibration.

Population and Housing

The proposed Project would not result in the property acquisition of residential properties or displacement of residences. The proposed Project would acquire property from several industrial parcels and six businesses would be displaced and relocated. While these businesses may have minority owners, may employ minority or low-income individuals, or may have local minority and low-income customers, these businesses are not unique and can relocate within the City of Stockton. Properties necessary for the proposed Project would be acquired based on current market values and relocation assistance would be provided per federal requirements.

It is important to note that construction of the proposed Project would temporarily displace unhoused transient populations that occupy the Mormon Slough that runs through the center of the environmental justice RSA. The homeless encampments within the slough are temporary and transient populations move from location to location depending on weather conditions, maintenance activity within the railroad corridor, or other factors. Prior to and during construction, transient populations currently occupying part of the Mormon Slough would need to be relocated. With the implementation of Measure BMP PH-1, an Outreach and Engagement Plan, SJRRC would pro-actively coordinate with the City and the County to assist these populations in finding alternative housing options consistent with the strategies, goals, and policies of the San Joaquin County Community Response to Homelessness Strategic Plan. With the severity of the impact minimized, the proposed Project does not result in disproportionately high and adverse effects on minority or low-income populations related to population and housing.

Public Services

The proposed Project would not result in any direct short-term or long-term impacts to fire protection, police protection, nearby schools, or other public facilities. However, during construction the proposed Project would cause indirect impacts related to traffic, circulation, and access for these facilities. However, with the implementation of a TMP, identified in Measure BMP TRA-7 (in Section 3.15, *Transportation*), these short-term indirect impacts would be reduced.

During operation of the proposed Project, emergency vehicles would benefit from improved local mobility. With the proposed flyover, there would be fewer delays at crossings since there would be substantially less “gate down” time for a train to travel through the rail corridor. With the severity of the impact minimized, the proposed Project does not result in disproportionately high and adverse effects on minority or low-income populations related to public services.

Recreation

During construction, the proposed Project will require 0.03-acre (1,316-sqare-foot) of TCE in the northwest corner of Union Park, located in the southeast quadrant of the intersection between East Hazelton Avenue and South Union Street. The TCE would be required in order to construct the underpasses at East Hazelton Avenue and East Scotts Avenue.

The TCE required at Union Park would not directly impact access to the existing facilities at Union Park in the short-term, as multiple access locations are available along the perimeter of the unfenced park, nor would it directly impact any of the features of the park that currently provide recreational opportunities.

Temporary indirect impacts to Union Park would occur over a 2- to 3-month period due to the full street closures of East Hazelton Avenue and East Scotts Avenue during proposed Project construction. These temporary street closures may indirectly impact local access to Union Park. However, in order to maintain traffic flow and park access through proposed Project construction, closures on East Hazelton Avenue and East Scotts Avenue would not occur at the same time.

Similarly, access to Independence Park, located in the southwest quadrant of South Aurora Street and East Market Street, may be indirectly impacted by the temporary closure of South Market Street during construction. However, with the implementation of the proposed Project Construction Transportation Plan, which will aim to minimize impacts of construction traffic on nearby roadways (Measure BMP TRA-2 in Section 3.15, *Transportation*), a CMP that will aim to address maintenance and pedestrian access during the construction period (Measure BMP TRA-4 in Section 3.15, *Transportation*), a CMP for the maintenance of bicycle and pedestrian access during construction (Measure BMP TRA-5 in Section 3.15, *Transportation*), and a TMP that requires alternate access and detour plans be available early and continuously throughout the proposed Project construction as part of ongoing public outreach (Measure BMP TRA-7 in Section 3.15, *Transportation*), these indirect short-term impacts related to access during construction would be reduced.

Additionally, due to the proximity of several parks (Union Park, Independence Park, and Liberty Park) noise and dust generated during construction my cause indirect short-term impacts on park users. However, with the implementation of Measures BMP AQ-1 and BMP AQ-2 (in Sections 3.2, *Air Quality*), which address compliance with EPA’s Tier 4 Exhaust Emissions Standards and a Fugitive Dust Control Plan, and Measures BMP NV-1 and BMP NV-2 (in Section 3.11, *Noise and Vibration)*, which require compliance with a Noise Control Plan and Vibration Control Plan, respectively, indirect short-term impacts related to noise and dust during construction would be reduced.

After the proposed Project construction is completed, the affected area of the park property would be returned to its prior condition, and no permanent modifications to Union Park's recreational features would occur. Thus, the proposed Project would not result in permanent impacts on parks, recreational, or other community facilities within the environmental justice RSA. Therefore, the proposed Project does not result in disproportionately high and adverse effects on minority or low-income populations related to recreation.

Transportation

Construction the proposed Project would cause impacts related to traffic, circulation, and access within the transportation RSA. However, with the implementation of a TMP, identified in Measure BMP TRA-7 (in Section 3.15, *Transportation*), these short-term impacts would be reduced. After the completion of the proposed Project, safer vehicular access would be provided within the transportation RSA compared to the existing condition and no long-term impacts would occur.

Additionally, during construction, impacts may occur to existing bicycle access within the transportation RSA. However, with the implementation of Measure BMP TRA-5, short-term impacts related to bicycle access would be reduced. After the completion of the proposed Project, safer bicycle access would be provided within the transportation RSA compared to the existing condition and no long-term impacts would occur.

Further, during construction, impacts may occur to existing pedestrian access within the transportation RSA. However, with the implementation of Measure BMP TRA-4 short-term impacts related to pedestrian access would be reduced. The proposed Project would construct roadway-rail at-grade crossing infrastructure and sidewalk improvements on Weber Avenue, Main Street, Market Street, Hazelton Avenue, Scotts Avenue, and Charter Way, including ADA compliant ramps. After the completion of the proposed Project, safer pedestrian access would be provided within the transportation RSA compared to the existing condition and no long-term impacts would occur.

The proposed Project would have no impacts on existing transit routes except on Charter Way (Route 49). In the long term, Route 49 will remain on Charter Way. During construction, however, the proposed Project would construct two new bridges across Charter Way and would demolish a portion of an existing bridge. Temporary closures, detours, or narrowing to two lanes on Charter Way may be necessary temporarily during construction. However, with the implementation of Measure BMP-6, short-term impacts related to transit resources would be reduced. After the completion of the proposed Project, transit operations would be improved from the existing condition and no long-term impacts would occur.

During construction, impacts may occur to existing parking and loading areas within the transportation RSA. However, with the implementation of Measure BMP TRA-3, which specifies that adequate off-street parking for all construction-related vehicles be provided throughout the construction period, impacts on public on-street parking areas would be minimized. Therefore, with the implementation of Measure BMP TRA-3, short-term impacts related to parking and loading would be reduced.

Permanent impacts to parking are considered minimal, as the parking spaces that will be removed as a result of the proposed Project would be along the same streets where full acquisitions and business relocations would occur. Therefore, the proposed Project does not result in disproportionately high and adverse effects on minority or low-income populations related to transportation.

Utilities and Service Systems

The proposed Project would require utility relocations, rerouting, removals, and utility line replacements, including electrical, gas, fiber optic cable, sewer, and storm drains. These activities could cause temporary service interruptions to existing utilities. However, with the implementation of Measure BMP UTIL-1 (in Section 3.17, *Utilities and Services Systems*), which requires stakeholders to be notified of utility service interruptions prior to construction, in conformance with Section 4216 of the California Government Code, short-term impacts would be minimized.

After construction, Project operations would not require or result in the relocation or construction of utility infrastructure and facilities. Therefore, no long-term impacts to utility facilities would occur. Therefore, the proposed Project does not result in disproportionately high and adverse effects on minority or low-income populations related to utilities and service systems.

5.6 Offsetting Benefits

As discussed fully in Chapter 1, *Goals and Objectives*, the key purpose of the Stockton Diamond Grade Separation Project is to provide operational benefits that enhance passenger rail service through uninterrupted flow of passenger and freight rail through the Stockton Diamond. The diamond is the busiest and most congested rail bottleneck in California, which results in delays to service that moves goods and people throughout the region. These delays not only result in unreliable rail services, but also result in congestion at the nearby at-grade roadway-rail crossings for vehicles, bicycles, and pedestrians.

With implementation of the proposed Project, the following benefits are anticipated:

1. **Stimulate Mobility**: Improve regional passenger and freight rail efficiency and travel reliability by reducing conflicting train movements.
2. **Enhance Safety**: Improve Stockton residents' access, safety, and mobility across rail lines through enhancements or closures at roadway-rail grade crossings.
3. **Economic Vitality**: Reducing delays will result in increased throughput, goods movement, and train velocity. This decreases fuel consumption and leads to cost savings.
4. **Inspire Connections**: Support faster, more reliable passenger rail service linking residents to family, jobs, and recreational destinations throughout Northern California.
5. **Sustainability**: Improve air quality through reduction of greenhouse gas from trains and vehicles that idle due to congestion and delays.

These benefits would be available to ACE and San Joaquins passenger rail users, local residents near the proposed Project, and the City and region in general. Among these three general groups of users are minority and low-income populations that would benefit from improved transportation access to employment, recreational, shopping, educational, and community resource opportunities. None of the anticipated proposed Project benefits would be denied to minority or low-income populations.

For local residents, in addition to improving passenger rail reliability for ACE and San Joaquins trains, the proposed Project would improve the safety and mobility of residents across UP Subdivision tracks. Shorter gate-down time that would result from improved operations would improve local mobility. The closures of some crossings and grade separations of others would improve safety across the tracks.

The proposed Project includes a number of other safety improvements in the local neighborhood. The proposed Project would reconstruct new railroad crossing surfaces at locations where the at-grade crossing would remain; these improvements include new pavement, curb, gutter, and sidewalks. Also, the proposed Project would result in a long-term improvement to air quality through the reduction of greenhouse gases that were originally emitted by trains and vehicles which sat idling during congestion periods.

5.7 Draft Environmental Justice Determination

As discussed in Section 5.6, *Assessment of Effects*, the proposed Project would result in adverse effects on minority and/or low-income populations. However, with mitigation measures incorporated as described in Chapter 3, *Environmental Impact Analysis*, these adverse effects would be reduced.

The determination of whether or not the proposed Project results in disproportionately high and adverse effects is based on the totality of the following considerations:

- The location of adverse effect in relation to minority and low-income populations
    - With the proposed Project, all improvements are located in minority and low-income communities. The location of the proposed Project is fixed, since it addresses the needs at the currently at-grade Stockton Diamond crossing. Both the proposed Project burdens and benefits would be experienced by the local minority and low-income communities.
- The severity of the adverse effect and the success of the proposed mitigation measures in reducing the effect
    - The mitigation measures identified in Chapter 3 address the potentially adverse impacts related to property acquisitions and displacements, parks and recreation, noise, and hazardous materials would reduce the severity of the potentially adverse effects of the proposed Project. With implementation of these mitigation measures, the proposed Project will not result in adverse effects.
- Whether mitigation measures reduce impacts equally for both minority and low-income populations as for non-minority and non-low-income populations

  - The mitigation measures incorporated into the proposed Project would be applied equally to all residents in the environmental justice RSA and would have a positive effect on minority and low-income populations since the environmental justice RSA for environmental justice is predominantly high-minority and low-income.

- The project benefits that would be received by minority populations and low-income populations
  - The proposed Project's benefits would be experienced by minority and low-income populations. There would be no denial of these benefits to these populations; moreover, many of benefits from the proposed Project would be received predominantly by the local communities, such as the reduced local congestion and improved safety, which are high-minority and low-income.

Based on the evaluation of potential adverse effects (burdens) related to environmental justice, as presented in Section 5.6, and the off-setting benefits discussed in Section 5.7, the proposed Project would not result in disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations.

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6 Cumulative Impacts

This EIR provides an analysis of the proposed Project's cumulative effects together with other past, present, and probable future projects producing related effects, as required by State CEQA Guidelines (14 CCR Section 15355). The purpose of this analysis is twofold: first, to determine whether the overall long-term effects of the proposed Project in combination with other past, present, and probably future projects would be cumulatively significant; and second, to determine whether the proposed Project itself would cause a "cumulatively considerable" (and thus significant) incremental contribution to any such significant cumulative effects (see State CEQA Guidelines [CCR Sections 15064(h), 15130, and 15355]). In other words, the required analysis first describes a broad context in which to assess the proposed Project's incremental contribution to anticipated cumulative effects, viewed on a geographic scale well beyond the Project itself. The analysis then determines whether the Project's incremental contribution to any significant cumulative effects from all projects is itself significant (that is, "cumulatively considerable") when viewed together with the effects of past projects, other current projects, and probable future projects.

This chapter analyzes cumulative effects according to each environmental resource area identified in Chapter 3. Only resources that will be affected by the project are discussed, since if the proposed Project does not have an effect on a resource, it cannot contribute to a cumulative effect on that resource.

6.1 Regulatory Framework

6.1.1 CEQA GUIDELINES

Cumulative effects are defined in the CEQA Guidelines (CCR Section 15355) as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." A cumulative effect occurs from "the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time" (CCR Section 15355[b]).

Consistent with section 15130 of the CEQA Guidelines, the discussion of cumulative effects in this EIR focuses on significant and potentially significant cumulative effects. CEQA Guidelines (CCR Section 15130[b]) states that:

> The discussion of cumulative effects shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact.

6.2 Approach to the Cumulative Analysis

There are several steps involved in analyzing cumulative effects. The initial steps involve analyzing direct and indirect effects of the proposed Project, followed by applying those results to cumulative effects. These steps are generally outlined below:

- Establish the RSA to analyze cumulative effects for each resource area.
- Characterize the significance thresholds that are relevant to the resource issue areas.
- Identify the effects associated with the proposed Project. If there are no direct or indirect effects of the proposed Project on a resource or discipline area, then there cannot be any cumulative effects to that resource.
- Identify other actions affecting the environmental resources of concern. This includes consideration of past, present, and reasonably foreseeable future projects or actions.
- Determine the magnitude and significance of cumulative effects. Significance determinations are related back to the methodology section and the significance thresholds that are relevant to each resource as presented in Chapter 3.
- Identify potential mitigation measures for cumulative effects on each environmental resource. Potential mitigation measures could include measures that would avoid, minimize, or mitigate cumulative effects as well as direct and indirect Project-related effects.

6.3 Related Projects/Actions

CEQA Guidelines identify two basic methods for establishing the cumulative environment in which the Project is to be considered: the use of a list of past, present, and probable future projects or the use of adopted projections from a general plan, and other regional planning documents or certified EIR for such a planning document.

For this EIR, a list of projects has been generated that represents reasonably foreseeable (probable) future projects and actions potentially contributing to cumulative effects. The list of past, present, and probable future projects used for this cumulative analysis is restricted to major transportation and infrastructure projects in the Stockton area. For the purposes of this discussion, the projects that may have a cumulative effect on the resources in the RSA will often be referred to as the "cumulative projects." These projects are identified in Table 6.1-1. The analysis of cumulative environmental effects associated with the proposed Project addresses the potential incremental contributions of the Project in combination with these related projects. The list of projects in Table 6.1-1 is not intended to be an all-inclusive list of projects in the region, but rather an identification of larger projects approved or planned in the Stockton area that may affect the same resources or geographic area as the proposed Project and thus may contribute to cumulative effects.

Table 6.3-1: Projects Considered for Cumulative Effects Analysis

Project Title	Project Description	Location	Schedule
Stockton Wye Track	New wye connection between BNSF Stockton Sub and UP Fresno Sub in northwest quadrant of existing Stockton Diamond (MP 1120.7) and new crossovers between MP 1120.8 and MP 1121.0	MP 1120.7 – northwest quadrant of existing Stockton Diamond.	Construction is scheduled to begin in Spring 2021.
Cabral Track Extension	Construction of an additional rail line between the ACE Rail Maintenance Facility and the Robert J. Cabral Station. The project also includes modifications to two at grade crossings at Oak and Park Streets in Stockton.	Between ACE Rail Maintenance Facility located on Alpine Avenue and Robert J. Cabral Station, which is on Channel Street.	Construction is scheduled to begin in Spring 2021.
Main Street Complete Streets	Rehabilitating Main Street using Measure K funding. Improvements include implementation of lane reductions, installation of bicycle facilities, and upgrading/repairing existing curb ramps and failing sidewalks, and signal modifications at all signalized intersections within the Project limits.	Main Street from Aurora Street to the City limits near State Route 99.	Timing unknown.
Cabral Station Expansion	Expansion of the Robert J. Cabral Station includes construction of a new Western Pacific Depot building, a reconfigured new parking lot and typical site fencing, lighting, and landscaping improvements. The Project intends to add approximately 200 new parking spaces. Two existing site ingress/egress access locations on Weber Avenue and Main Street would be reconstructed.	Project site is bounded on the north by East Weber Avenue, on the east by North Union Street, on the south by East Main Street, and on the west by the UP-railroad tracks.	Construction of Phase I would occur in Spring 2021.

6.4 Cumulative Impact Analysis

6.4.1 AESTHETICS

Resource Study Area

The cumulative aesthetic RSA for evaluating impacts to aesthetics encompasses the areas directly or indirectly affected by construction and operation of the proposed project. These areas include the Project construction limits plus a quarter-mile buffer. This area is defined by the farthest line-of-site locations viewers would have of the proposed project. The visibility of the Project and the project areas of the four identified cumulative projects would be constrained, like all viewsheds, by terrain, vegetation, and existing buildings. In the mostly flat urban landscape of the Project Area, the

cumulative RSA would be defined primarily by the constraints on visibility that are caused by the buildings currently flanking the Project Area. These buildings typically line both sides of South Union Street on the east edge of the Project Area and South Aurora Street on its west side, restricting the RSA to the area between those two city streets. To include the areas examined for the cumulative projects, the RSA would be extended north to Harding Way to include visual impacts caused by the construction and operation of the Cabral Track Extension. It would still be bounded on the east by South Union Street and on the west by South Aurora Street. The RSA for the other three proposed cumulative projects would be located within the proposed Project's aesthetics RSA, as described in Chapter 3.1.

Cumulative Condition and Contribution of the Proposed Project

Changes to the existing setting and its visual quality that are anticipated to occur in the next 20 years are minimal, mostly the result of a slow continual reinvestment in the proposed Project area that may see the refurbishment or replacement of older buildings with newer structures on the periphery of the Project area along South Union and South Aurora Streets. Improvements to railroad facilities would also likely continue in the UP-owned right-of-way between the two streets.

Visual impacts associated with the planned projects summarized in Table 6.1-1 are anticipated in or near the proposed Project area, regardless of the proposed Project, as summarized below.

- **The Stockton Wye Track Project** would affect visual quality by adding a new track that would include a modified crossing at East Scotts Avenue. The construction of the wye would result in an additional crossing of East Scotts Avenue, which would alter the visual experience for pedestrians, bicyclists, and motorists using East Scotts Avenue. The new Stockton Wye Track would be located between the BNSF Stockton Subdivision and UP Fresno Subdivision main lines in the existing Stockton Diamond's northwest quadrant. Although it may require the acquisition of existing commercial structures, it would occupy mostly land that is currently vacant. The land use surrounding the proposed wye is exclusively commercial, some of which may be railroad related. The visual character of the area, already dominated by railroad activities, would not be altered. There would be some neighbors who use South Aurora Street, East Hazelton Avenue, and East Scotts Avenue that would have views of the proposed wye. Since no new crossings would be constructed on South Aurora Street or East Hazelton Avenue, changes to the user's visual experience on those two streets would not be adversely affected as these are mostly viewers who would already be familiar with views of train tracks and trains. The wye would add a third crossing on East Scotts Avenue. The additional crossing would adversely affect the experience of people using East Scotts Avenue, particularly those walking or bicycling.
- **The Cabral Track Extension Project** extends from the proposed Project construction limits at East Weber Street north to East Harding Way and would accommodate a mile of new track, a new railroad overcrossing at East Harding Way, 3,000 feet of new retaining wall, and improved crossings at East Oak and East Park Streets. These additions would affect the visual character of the corridor but not necessarily the visual experience of the mostly commercial neighbors, depending on how the new facility, principally the new retaining wall, would affect the visibility of businesses and their entrances and signs from adjacent thoroughfares. It is anticipated that the wall would be placed between the backs of commercial structures and the railroad on or near the

right-of-way boundary. As such, typical views of businesses, their entrances, and their signs would not be affected by the construction of the track extension and its associated retaining wall. Although the Cabral Track Extension project would expand the area impacted cumulatively by the two projects, the effect on visual character and the quality of the visual experience would not be substantial.

- **The Main Street Complete Streets Project** includes the construction of new or improved pedestrian and bicycle facilities on East Main Street and East Market Street between South Aurora Street and South Locust Street. This project would enhance the existing visual character and the experience of visual quality by aligning the visual character of these streets with the visual preferences of the community as defined by municipal ordinances and planning documents. The proposed improvements to East Main Street and East Market Street would assist in mitigating the impacts caused by adding another rail crossing to those two streets. Improvements associated with the Main Street Complete Streets Project are in alignment with the visual preferences of the community and would therefore be considered beneficial aesthetic impacts. By providing beneficial impacts, the Main Street Complete Streets project would aesthetically enhance not only the RSA but provide cumulative aesthetic benefits to the proposed Project and RSA.
- **The Cabral Station Expansion Project** is located within the proposed Project's RSA in a block bounded by East Weber Street on the north, South Union Street on the east, East Main Street on the south, and the UP tracks on the west. The Cabral Station Expansion Project would affect the existing visual character and the perception of visual quality by replacing vacant land and the remnant of a previously demolished historic depot with a large surface parking lot buffered by a fence and vegetation. As currently proposed, the parking lot may be affected by the proposed Project, which may clip part of the southwest corner of the parking lot.

Conclusion

The four planned projects would not affect the impacts on the aesthetics and visual quality of the proposed Project, nor would the proposed Project affect the aesthetics and visual quality of the four planned projects. Proposed Project aesthetics BMP measures would minimize Project-specific visual impacts through coordinating with UP on all proposed design elements to reduce visual impacts. Trees would be incorporated along the west side of South Union Street for the viaduct and retaining wall design options, and a lighting plan would be implemented to minimize glare on adjacent properties and into the night sky during construction and operation, consistent with the City's Municipal Code and General Plan. The visual character of the aesthetics RSA would largely remain unchanged. No significant aesthetics impacts are anticipated with the cumulative projects, and thus, no significant cumulative impacts, adverse or beneficial, would occur.

6.4.2 AIR QUALITY

Resource Study Area

To develop a broad, regional consideration of cumulative impacts for air quality, the entire San Joaquin Valley Air Basin (SJVAB) was identified as the cumulative RSA.

Cumulative Condition and Contribution of the Proposed Project

SJVAPCD, which has jurisdiction over SJVAB, has identified project-level thresholds to evaluate air quality impacts from projects in SJVAB and, in developing these thresholds, has identified levels at which project emissions would be cumulatively considerable. According to SJVAPCD, a project's emissions may be individually limited but cumulatively considerable when taken in combination with past, present, and future development within SJVAB (SJVAPCD 2015). If a project would result in a significant impact based on SJVAPCD annual significance thresholds for criteria pollutants, then the Project would also be considered cumulatively significant. However, if the Project emissions are below the annual significance thresholds for criteria pollutants, the impact may still be cumulatively significant. For instance, if a project results in criteria pollutant concentrations that exceed any of the federal health-based ambient air concentration standards or causes a worsening of areas already exceeding those standards, the Project's impacts would be considered individually significant, as well as cumulatively significant. In addition, the combined emissions of the Project and cumulative development located within the same area could potentially cause or worsen an exceedance of the concentration standards, thereby resulting in a cumulatively significant impact.

Air quality would be temporarily degraded during construction activities that occur separately or simultaneously with other projects within SJVAB. The greatest potential for a cumulative impact on regional air quality would be the incremental addition of pollutants from increased traffic from residential, commercial, and industrial development and the use of heavy equipment and trucks associated with constructing the proposed Project and cumulative projects. Construction impacts related to the cumulative projects would be cumulatively significant within SJVAB if their combined construction emissions would exceed SJVAPCD emission thresholds during construction. Any project located within SJVAB would be required to comply SJVAPCD rules and regulations to reduce potential emissions during construction.

As described in Section 3.2, *Air Quality*, the unmitigated construction emissions associated with all the design options would exceed SJVAPCD's annual significance threshold for NO_X. However, implementation of Measures BMP AQ-3~~1~~ and BMP AQ-4~~2~~ (described in Section 3.2) would reduce project-related construction emissions. After implementation of these BMP measures, the construction emissions associated with all the proposed Project design options would be reduced to below SJVAPCD's annual significance thresholds. In addition, after implementation of BMP measures, the daily emissions associated with all the proposed Project design options would not exceed the 100 pound per day threshold. Therefore, the proposed Project is not required to prepare an Ambient Air Quality Assessment. The proposed project's construction emissions would not contribute to a cumulative impact.

As described in Section 3.2, once operational the proposed Project would result in a net reduction in local and regional air quality emissions. In addition, with the implementation of Measures BMP AQ-1, which requires compliance with the City's CERP, and AQ-2, which evaluates the feasibility of vegetative barriers and urban greening, long-term impacts related to criteria air pollutant emissions would not be cumulatively considerable.

Conclusion

The proposed Project would include BMP measures to minimize the potential for the violation of air quality standards during construction activities (that is, exceedances of the NO_X SJVAPCD thresholds). Any project located within SJVAB would be required to comply with SJVAPCD rules and regulations to reduce potential emissions during construction. In addition, the Project would include BMP measures to potentially further reduce long-term impacts related to criteria air pollutant emissions. Therefore, construction and operation of the proposed Project in combination with other planned projects would not result in significant cumulative air quality impacts under CEQA.

6.4.3 BIOLOGICAL RESOURCES

Resource Study Area

The four projects included in Table 6.1-1 are all planned relatively close to the proposed Project; therefore, the cumulative RSA for habitat, special-status species, aquatic resources, and wildlife movement corridors is similar to the RSA used for the proposed Project. However, rather than a 0.25-mile buffer, the cumulative RSA includes the proposed Project disturbance footprint plus a 0.5-mile buffer (referred to as the BSA in Section 3.3). The cumulative RSA was selected to develop a broad consideration of cumulative impacts and to capture potential impacts on biological resources associated with construction and operations of the Cabral Track Extension, Cabral Station Expansion, Stockton Wye, the Main Street Complete Streets Project, and regional impacts on biological resources associated with development projects affecting similar habitat types and occurring within neighboring watersheds.

Cumulative Condition and Contribution of the Proposed Project

The cumulative RSA falls largely within the center of the City of Stockton, which is a heavily disturbed area. Within the cumulative RSA, most of the land use is comprised of industrial, transportation (existing rail rights-of-ways, roads, and freeway infrastructure), and residential pockets. The majority of the BSA is disturbed ruderal and developed landscapes; however, small, scattered areas of eucalyptus, urban parks, annual grassland, and vegetated areas occur throughout.

The cumulative RSA is bisected by the Mormon Slough, which runs east to west. With the Stockton Diverting Canal re-routing flows, the Mormon Slough is now fed mainly through intermittent surface water runoff and does not convey water year-round and the area is currently highly disturbed. The section of the Mormon Slough crossed by the cumulative RSA is highly disturbed, littered with trash, and is home to a large established transient population.

Although the cumulative RSA is largely a developed landscape, ~~it may support a handful of special-status species, special-status communities, and aquatic resources.~~ the following three special-status bird species have the potential to occur in, or directly adjacent to, the BSA: burrowing owl, Swainson's hawk, and white-tailed kite. No special-status bat species were identified during desktop queries, but bat maternity roosts are generally protected under CEQA and several bat species are

covered under the SJMSCP. Because of the highly urbanized area and proximity to Mormon Slough, roosting bats, or those covered under the SJMSCP, have the potential to occur within the BSA. Although suitable habitat for giant garter snake and western pond turtle is absent from the BSA, the SJMSCP identifies the Mormon Slough as suitable habitat for these species. Prior to re-routing flows, the Mormon Slough conveyed water frequently and acted as a flood channel, providing higher quality habitat for these species. No habitat for special-status plants was found to occur in or directly adjacent to the BSA.

As a result, any occurrences of special-status species, jurisdictional features, or sensitive habitats are considered sensitive resources under the cumulative RSA's existing, disturbed conditions. Under the cumulative condition, ongoing urban development and operations are expected to continue within the cumulative RSA. Planned urban development as part of the cumulative contribution projects would occur in the footprint of already developed areas and would not require the conversion of large open space land areas to accommodate them.

Together, the proposed Project and the aforementioned projects in the cumulative RSA constitute the cumulative condition relevant to special-status species, special-status communities, and aquatic resources. Any permanent conversion of existing habitat types may result in cumulative impacts on special-status species within the cumulative RSA. These cumulative impacts would be most likely to occur for the three raptor species (burrowing owl, Swainson's hawk, and white-tailed kite), migratory birds, and bats determined to have a potential to occur in the proposed Project RSA, as suitable habitat is present. Cumulative impacts may also occur to SJMSCP-identified habitat for giant garter snake and pond turtles associated with the Mormon Slough.

While the proposed Project would not result in any direct impacts on Central Valley steelhead, Chinook salmon, green sturgeon, or groundfish, due to the lack of perennial flows in the Mormon Slough within the BSA, the proposed Project would result in direct impacts on designated critical habitat for Central Valley steelhead and EFH for Chinook salmon. Although the Mormon Slough does not currently support suitable habitat for either of these species, Project activities in the Mormon Slough have potential to affect its long-term restoration potential for use by these species.

To avoid permanent loss of the Mormon Slough for fish passage, the structure spanning the Mormon Slough will retain a natural substrate stream channel bottom. SJRRC would implement all commitments and avoidance measures identified in the Section 7(a)(2) Concurrence Letter and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response issued for the Project by NMFS on May 17, 2021. As part of the NMFS consultation, SJRRC will select a structure design that would maintain the potential for future restoration of fish passage within the Mormon Slough.

Constructing these projects could result in land disturbance, increased vehicle traffic, and topography alteration, which could lead to disturbance, injury, or mortality of various special-status wildlife species and their respective habitats. Operating these planned projects could result in additional cumulative impacts involving ground disturbance, the removal of vegetation, and temporary increases in noise and dust, which could impact special-status species and their

respective habitat. Construction activities also have the potential to impact jurisdictional features, should they be present in the cumulative RSA, and potentially result in loss of area or functional value. Indirect habitat degradation could occur near developed sites through changes in nighttime lighting that illuminates sensitive habitat areas or from trash blown from nearby residential and commercial areas.

Taken together, potential impacts resulting from these projects would be considered a cumulative impact on special-status species, their habitat, and aquatic resources. Special-status species and aquatic resources are protected by law and any planned development or transportation projects would be required to incorporate measures to minimize disturbance of special-status species. Such measures include conducting protocol-level surveys; salvaging, relocating, and propagating identified species; and restoring potential habitat areas after construction. While the biological impacts of the projects taken together are cumulative, with adherence to federal, state and local regulations concerning biological resources and the implementation of appropriate BMPs and mitigation measures, the cumulative impacts would not be significant.

Additionally, the proposed Project includes requirements that would avoid, minimize, and/or mitigate direct and indirect impacts associated with proposed Project construction and operation, which are identified in Section 3.3, *Biological Resources.*

Conclusion

With adherence to federal, state and local regulations concerning biological resources and the implementation of the BMPs and mitigation measures identified above, impacts to biological resources would not be cumulatively considerable.

6.4.4 CULTURAL RESOURCES

Resource Study Area

The cumulative impact RSA for cultural resources encompasses the permanent construction limits, proposed staging areas, and a quarter-mile buffer. The quarter-mile buffer is included because it is sufficiently broad to cover the area in which the proposed Project's potential cumulative impacts, in combination with the impacts of other projects, could occur.

Cumulative Condition and Contribution of the Proposed Project

No known past projects have specifically impacted the historic built resources in the APE; however, many of these properties have been altered in ways that have diminished their historic integrity. The minor impact to each of the historical resources in the APE (noted in Section 3.4) taken together with past impacts to the historical resources does not cause a cumulative impact.

The Cabral Track Extension's Phase II construction is slated to begin in 2021. The project consists of the construction of an additional rail line from the Cabral Train Station north to the ACE Maintenance Facility in Stockton. This project is located just north of the present APE for the Stockton Diamond Grade Separation Project. Therefore, the Cabral Track Extension taken together

with the proposed Stockton Diamond Grade Separation Project is not anticipated cause a substantial adverse cumulative effect to the historical resources analyzed for this Project.

The Cabral Station Expansion project proposes the construction of two existing site ingress/egress locations on East Weber Avenue and East Main Street, parking lot reconfiguration, and a new Western Pacific Depot Building. The proposed project site is bounded by the extant UP corridor, East Weber Avenue, East Main Street, and South Union Street, and overlaps the APE for the Stockton Diamond Grade Separation Project. While the site once included CRHR-listed Western Pacific Railroad Depot, the building was demolished in early 2020. Presently, no known historical resources are located within or immediately adjacent to the Project. Therefore, this future project would not cause a cumulative impact on any of the historical resources identified herein.

The Stockton Wye Track project proposes the construction of a new wye connection between the BNSF Stockton Subdivision and the UP Fresno Subdivision in the northwestern portion (around MP 1120.7) of the Stockton Diamond Grade Separation Project as well as the construction of new crossovers between MP 1120.8 and MP 1121.0. There are no known historical resources located within or near this project site. Therefore, it is anticipated that the Stockton Wye Track taken together with the proposed Stockton Diamond Grade Separation Project would not cause a significant cumulative effect to the historical resources analyzed for this Project.

No archaeological resources or tribal cultural resources determined to be significant have been identified within the proposed Project's APE. However, there is a possibility that previously undiscovered and undocumented archaeological or tribal cultural resources could be affected by the Project's ground disturbing activities. Cumulative impacts could only occur to archaeological resources if previously undiscovered resources are identified during construction. Implementing cultural resources Measures BMP CUL-1, BMP CUL-2, and BMP CUL-3 would ensure that any unknown resources that could be uncovered during construction are properly treated, and significant impacts minimized.

Conclusion

After implementation of BMP measures, the proposed Project, in combination with future and planned projects, would not result in significant cumulative impacts on cultural resources.

6.4.5 ENERGY

Resource Study Area

The cumulative RSA for energy (including electricity) is the State of California because the entire electrical grid of California and other western states that produce energy and export it to California is sufficiently broad to cover the area in which the potential impacts of the proposed Project, in combination with other projects, could result in impacts. Given its large RSA, electricity is examined using projections rather than a list of projects.

Cumulative Condition and Contribution of the Proposed Project

The cumulative condition for energy resources consists of the statewide electrical grid and is reflected in CEC electricity supply and demand planning documents. The cumulative condition for energy resources also involves natural gas supply and distribution and petroleum product (diesel fuel, gasoline) supply and distribution.

Planned development and growth will contribute to a cumulative increase in electricity use and increased demands on the existing electric utility infrastructure within the cumulative RSA. Electricity providers perform regular demand projections that include the demand created by planned development. Proposed Project construction and operations would consume electricity for construction equipment, train operation, and maintenance facilities. High-voltage electric transmission lines, power lines, and distribution lines would need to be built or upgraded to serve the increased electricity demand and to meet grid reliability requirements. New and/or upgraded electrical transmission lines and powerlines within the cumulative RSA would be expected to help accommodate the additional electrical demand associated with planned and future development projects and regional growth within the cumulative RSA. As a result, energy used for construction and operation of planned and future development projects, including the proposed Project, would not require additional energy capacity beyond that which already exists or is already planned, and there would not be a cumulative impact on energy resources.

Planned and future projects, including the proposed Project, would consume gasoline and diesel fuel for operation of construction equipment and vehicles. Planned project operations and general population growth would result in increases in petroleum product consumption. During operations, the proposed Project would result in a reduction in demand for transportation fuels because of reduced delays and improved regional passenger and freight rail efficiency. Gasoline and diesel fuel consumption of for the construction and operation of planned and reasonably foreseeable projects, including the proposed Project, would not result in constraints on the availability of fuel in the cumulative RSA because fuel supplies for construction and operation of cumulative projects would be supplied by the existing and sufficient petroleum product production and distribution infrastructure in California, and because proposed Project operations would result in a reduction in demand for petroleum fuel products. Therefore, there would not be a cumulative impact on energy resources from construction and operations of the proposed Project in combination with existing, planned, and future projects.

Conclusion

There are no anticipated significant cumulative impacts related to energy to which the proposed Project would contribute because energy consumption during construction and operations would not place a substantial demand on regional energy supply, require construction of substantial additional electricity generating capacity, or substantially increase electricity demand. Therefore, no mitigation is required.

6.4.6 GEOLOGY, SOILS, AND PALEONTOLOGICAL RESOURCES

Resource Study Area

The cumulative RSA for hazards related to geology and soils, is limited to the proposed Project construction limits. The cumulative RSA for hazards related to geology and soils is not cumulatively additive across projects because each project site has a different set of geologic considerations.

The paleontological cumulative RSA is defined with an approximate 2-mile buffer surrounding the proposed Project construction limits, which is larger than the RSA described in Section 3.5, *Geology, Soils and Paleontological Resources* (defined there as a half-mile buffer surrounding the Project construction limits). This cumulative RSA was selected to allow a broader consideration of cumulative impacts.

Cumulative Condition and Contribution of the Proposed Project

Geology and Soils

The relevant planned and future development projects, such as the new wye connection between BNSF Stockton Subdivision and UP Fresno Subdivision, the Cabral Track Extension project, and Cabral Station Expansion project, would be susceptible to seismic and geologic hazards in the cumulative RSA. If the impacts of these cumulative projects were to combine to create public risk related to geologic, soil-related, or seismic hazards, such risk would constitute a cumulative impact.

The planned development projects, including the proposed Project, could experience seismic hazards from earthquake ground shaking, and secondary hazards from earthquake-induced liquefaction and slope failures. Future development projects would require individual environmental review with project-specific analysis to evaluate the seismic hazard risks. Future development projects would need to comply with Title 24 California Building Code requirements with adherence to geotechnical and stability regulations and would be designed to avoid or minimize seismic impacts. Therefore, construction and operation of planned and future development projects within the cumulative RSA and these impacts would not combine to result in a significant cumulative impact related to seismic hazards.

Planned and future development projects, including the proposed Project, could expose and disturb soils in the cumulative RSA. Exposed and disturbed soils are vulnerable to erosion from runoff during construction. Incorporating BMPs to be outlined in the SWPPP and in compliance with the erosion control requirements in the City of Stockton Municipal Code would minimize the individual soil erosion impacts associated with construction of planned development projects within the cumulative RSA. Therefore, there would be no significant cumulative impacts related to soil erosion.

Unstable soils, including collapsible and expansive soils, can cause permanent damage to planned development projects throughout the cumulative RSA. Exposing planned and future development projects, including the proposed Project, to unstable soils could result in damage from ground settlement, bearing capacity failure, and soil expansion. While these would be project-specific risks

during construction, it is not anticipated that these impacts would combine across projects to create additional public risk.

As discussed in Section 3.6, *Geology, Soils, and Paleontology*, the proposed Project will implement measures to address geologic constraints, to minimize or avoid impacts to geologic hazards during construction, and to prepare a project specific Geotechnical Design Report that incorporates geotechnical recommendations for ground improvement options and foundation, embankment, and retaining wall design for the proposed Project in final design. With these BMP measures in place for the proposed Project, construction and operations of the planned transportation projects within the cumulative RSA would not result in a significant cumulative impact regarding unstable soils.

Therefore, there are no geology and soil hazards associated with cumulative development projects that would combine to form significant cumulative impacts to which the proposed Project would contribute.

Paleontological Resources

Future ground-disturbing projects in the paleontological RSA would involve the early Holocene- to late Pleistocene-age Modesto Formation, which has produced abundant and diverse fossil resources, including vertebrate remains, and is thus considered sensitive for paleontological resources (that is, likely to produce additional similar finds in the future). Planned and future projects in the paleontological RSA, such as the Stockton Wye Track, Cabral Track Extension, Main Street Complete Streets, Cabral Station Expansion, and other transportation and development projects, would require ground-disturbing work in areas that include the Modesto Formation beneath artificial fill and disturbed sediments. These projects would have the potential to cumulatively destroy scientifically important fossil resources. Once lost, such resources cannot be recovered, and there would be a cumulative impact on paleontological resources resulting from construction of these projects.

However, with the implementation of BMP, requiring the preparation and implementation of a Paleontological Resources Management Plan during final design, in the event unanticipated paleontological resources are discovered during Project related activities, work in the immediate vicinity of the discovery would be halted until it can be evaluated by a qualified paleontologist. Therefore, with the implementation of Measure BMP GEO-4, along with regulatory standards during construction, the proposed Project's contribution to any cumulative impacts would not be cumulatively considerable.

Conclusion

The proposed Project, in combination with past, present, and future projects, would not result in a significant cumulative impact under CEQA with respect to risks associated with geology, soils, and paleontological resources. Planned and future projects in the RSA would adhere to applicable building codes and construction standards that would include minimizing impacts from hazards related to geology and soils. Further, future and planned projects would comply with state and local regulations as they relate to paleontological resources and would be subject to environmental review

to determine potential impacts and identify appropriate pertinent mitigation measures and minimization measures. The proposed Project would incorporate best management practices and to minimize potential impacts on geology, soils and paleontological resources during construction and any project contribution to cumulative impacts would not be cumulatively considerable.

6.4.7 GREENHOUSE GAS EMISSIONS

Resource Study Area

The cumulative RSA for GHG is defined as the entire State of California.

Cumulative Condition and Contribution of the Proposed Project

GHGs are global pollutants, unlike criteria air pollutants (such as ozone precursors), which are primarily pollutants of regional and local concern. Given their long atmospheric lifetimes, GHGs emitted by countless sources worldwide that accumulate in the atmosphere. No single emitter of GHGs is large enough to trigger global climate change on its own. Rather, climate change is the result of the individual contributions of countless past, present, and future sources. Therefore, GHG impacts are inherently cumulative.

As discussed in Section 3.7, when amortized over a 30-year period the construction GHG emissions associated with all the design options would be less than CAPCOA's interim 900 MT CO_2e per year screening level. In addition, once operational, the proposed Project would result in a net reduction in regional GHG emissions. The proposed Project would result in long-term reductions in GHG emissions of up to 3,220 tons per year. The reduction in GHG emissions would help California meet its 2030 goals under SB 32. Therefore, the impacts related to GHGs would not be cumulatively considerable.

Conclusion

Operation of the proposed Project in combination with other planned projects would not result in any emissions exceedances or cumulative air quality impacts. Statewide efforts are underway to reduce GHG emissions, and the proposed Project and other development projects are required to comply with these adopted plans and goals. Proposed Project impacts related to GHG would not be cumulatively considerable.

6.4.8 HAZARDS AND HAZARDOUS MATERIALS

Resource Study Area

The cumulative RSA for hazards and hazardous materials is the same as is documented in Section 3.8, *Hazards and Hazardous Materials*, which consists of the permanent construction limits and an additional quarter-mile buffer. The cumulative RSA was developed in order to capture the potential for the proposed Project, and other relevant future planned projects in the area, to disturb contaminated sites or hazardous listings, create additional hazards for workers and sensitive

receptors (that is, construction or operations near airports, private air strips and schools), create or exacerbate fire hazards, or interfere with an emergency response or emergency evacuation plan.

Cumulative Condition and Contribution of the Proposed Project

Under the cumulative condition, ongoing urban and industrial practices are expected to continue within the cumulative RSA. Historically, the cumulative RSA has had general areas of hazardous materials and waste concerns, including transportation of hazardous materials and wastes, potential building materials containing hazardous substances, potential road and railway corridor hazardous substances, potential utility corridor hazardous substances, potential industrial facility hazardous substances, naturally occurring hazards, school facilities, oil and gas wells, and hazardous materials database listings. The projected increase in population and development by the year 2045 is anticipated to contribute incrementally to the transport, storage, use, and disposal of hazardous materials and wastes in the cumulative RSA.

The cumulative transportation projects in the Project Study Area would require the use, transport, and disposal of chemicals and hazardous materials, such as vehicle fuels, coolants, gasoline, oils, lubricants, drilling fluids and paints, during construction and operations similar to those needed for the proposed Project. The use of these materials presents a risk of releasing hazardous wastes or materials into the environment. In addition to the use of hazardous materials, contaminated soil and groundwater are also expected to be encountered during soil excavations and dewatering activities associated with other planned projects. However, as with the proposed Project, other planned projects would be tightly controlled and subject to federal, state, and local health and safety requirements. Typical requirements include temporary storage BMPs, containment in closed containers, and characterization of waste material for disposal at facilities that are equipped and licensed to handle waste with specified characteristics.

During construction, the Stockton Wye Track, Cabral Track Extension, Main Street Complete Streets, and Cabral Station Expansion have the potential to emit hazardous emissions within 0.25 mile of an existing school. These emissions would be temporary and intermittent during the construction phase of each of the planned projects and would likely be controlled by BMPs to reduce emissions to a less than significant level. Temporary or permanent road closures may be required for the planned projects, which could result in impacts to an emergency response or emergency evacuation plan. However, any road closures proposed under other projects would require coordination and approval from appropriate agencies and departments within the City and County. The planned projects included in this cumulative analysis would be located predominantly within industrial zones outside of wildlands or high and very high fire hazard severity zones and would not create substantial risk to wildfire.

Proposed project mitigation measures include: preparation of a Construction Hazardous Materials Management Plan, completion of Environmental Site Assessments, preparation of a General Construction Soil Management Plan that includes provisions for how soils will be managed, parcel-specific soil management plans, health and safety plans, plans to halt construction work if potentially hazardous materials or abandoned oil wells are encountered, pre-demolition investigation

prior to the demolition of any structures constructed prior to the 1970s, and maintenance of emergency response times during construction. With the implementation of these mitigation measures, potential impacts from the release of hazardous wastes and materials, disturbance of contaminated sites, emissions near schools, or interference with an emergency response or emergency evacuation plan would be minimized.

Conclusion

The proposed Project is not located in a high or very high hazard severity zone, or within 2 miles of an airport, private airstrip, or airport land use plan. Therefore, there would be no cumulative impact associated with wildfires or being located near an airport or private airstrip.

The proposed Project, when considered in combination with other planned projects in the area that would also be tightly controlled and subject to federal, state, and local health and safety requirements, would not result in a significant cumulative impact to hazards and hazardous materials.

6.4.9 HYDROLOGY AND WATER QUALITY

Resource Study Area

The four projects included in Table 6.1-1 are all located relatively close to the proposed Project; therefore, the cumulative RSA for hydrology and water quality is similar to the RSA used for the proposed Project, as described in Section 3.11. However, the cumulative RSA includes a 0.25-mile buffer to account for other surface waterbodies potentially affected by the planned projects, including Mormon Slough, The Calaveras River, the Port of Stockton, and the Delta. The planned projects and the proposed Project are all located within the Eastern San Joaquin Groundwater Basin. Therefore, the Eastern San Joaquin Groundwater Basin is included in the cumulative RSA for hydrology and water quality.

Cumulative Condition and Contribution of the Proposed Project

Under the cumulative condition, ongoing urban development practices are expected to continue within the cumulative RSA. Urban development stemming from the population increase through 2045 could result in additional industrial, commercial, recreational, and residential developments in the broader cumulative RSA. In addition, planned transportation and construction of the Mormon Slough bypass improvements and the Stockton Diverting Canal are located within the cumulative surface water RSA.

Surface Water Hydrology

Cumulative impacts could occur if the incremental impacts of the cumulative projects combined to change drainage patterns such that runoff exceeded the capacity of existing or planned stormwater facilities; altered the route or capacity of a canal, stream, or river; or changed runoff direction or rates causing flooding. Changes affecting pollutant loads in stormwater runoff could also result in cumulative impacts on waterbodies (see the discussion on surface water quality below).

Cumulative transportation projects affecting surface water hydrology would include the proposed Project that requires a new crossing of Mormon Slough, and the identified cumulative projects that potentially impact or relocate existing stormwater drainage infrastructure: the Stockton Wye Track Project (Spring 2021), Cabral Extension Project (Spring 2021), Main Street Complete Streets Project (timing unknown), and Cabral Station Expansion Project (Spring 2021). While these transportation projects may modify and relocate individual drainage ditches, storm drains, and basins, adhering to existing laws and permit processes that control streambed alteration and limit changes to drainages, such as the Federal CWA and the California Construction General Permit, would work to avoid cumulative impacts from these transportation projects. Once constructed, BMPs and stormwater facilities built as part of these projects would capture and slow release to waterways, thereby avoiding cumulative operational impacts.

The greatest potential for cumulative surface water hydrology impacts during construction of the planned projects is related to potential increases in drainage volumes associated with increases in impervious surface area.

This increase in impervious surface can result in periodic and permanent increases in stormwater runoff volumes during rain events. Laws and permitting processes, including local stormwater permits, generally require new development and transportation projects to incorporate temporary and permanent stormwater capture and infiltration features (for example, basins, bioswales, storage features) during construction and operations such that runoff volumes would not exceed the capacity of existing and planned stormwater facilities to accommodate the runoff.

Hydraulic analyses within the Mormon Slough would be conducted using Union Pacific Railroad's current 50- and 100-year flood flow criteria, a projected future flow of 1,550 cubic feet per second (according to SJAFCA's *Strategic/Capital Plan*), and the City of Stockton Specific Plan's future flow of 3,000 cubic feet per second for the existing and proposed crossings. The proposed Project would be designed to allow for current and both projected future flow cases. Any drainage structure designed for this location would be designed for both existing conditions and proposed future conditions.

These requirements and features work together to minimize impacts related to incremental contributions of new impervious surface and there would not be a significant cumulative construction or operations impact to surface water hydrology.

Surface Water Quality

Anticipated growth and development within the expanded cumulative RSA could contribute to cumulative surface water quality degradation, and the collective effect of development could degrade stormwater quality by contributing pollutants, including eroded material, during construction and operations within the cumulative surface water RSA. Cumulative development could also affect surface water quality if the land uses change, the intensity of land use changes, or drainages are altered such that they facilitate the introduction of pollutants to surface water. A cumulative impact would occur if the impacts of the planned projects discussed in Table 6.1-1 combined to violate any

water quality standards or waste discharge requirements or otherwise degrade water quality in water bodies in the cumulative RSA.

The planned projects are located in an urban area, in close proximity to the proposed Project, and would not cross any waterbodies or result in land use changes. Regulatory standards (NPDES permit, MS4 permit, and local stormwater requirements) and avoidance features required as conditions of individual project approvals would minimize water quality impacts associated with construction. With these measures in place, construction and operation within the cumulative RSA are not anticipated to violate water quality standards or waste discharge requirements or further degrade water quality within the RSA; therefore, cumulative surface water and stormwater quality impacts would not be significant.

Groundwater

Impacts to groundwater would be cumulatively considerable if they resulted in the groundwater table permanently lowering and reduced groundwater supplies. The four projects considered in this cumulative analysis may require dewatering and the use of groundwater during construction. Impacts to groundwater from the four cumulative projects would be temporary and localized during construction and would not likely not cause a net deficit in aquifer volume or lowering of the groundwater table. The four cumulative projects could also involve the addition of new impervious surfaces that would reduce groundwater recharge. However, given the developed nature of the RSA, the cumulative impact of the planned projects on groundwater recharge would not be significant. Groundwater would likely not be required during operations of the four cumulative projects given the nature of the projects. Additionally, any planned projects would be required to conform to groundwater management plans and state, local, and regional policies regarding groundwater supplies. Therefore, cumulative groundwater impacts would not occur.

Floodplains

Future projects involving new and improved bridge crossings, such as the Stockton Diamond Grade Separation flyover structure over Mormon Slough in the City of Stockton, could require the placement of piers or culverts in a FEMA or CVFPB floodway or floodplain. If the impacts on floodplains from these projects were to combine to redirect flood flows or increase flood elevations to the point that they placed structures within a floodplain such that they would be imperiled, it would be considered a cumulative impact.

All ongoing and planned projects are subject to and must comply with applicable federal, state, and local policies, programs, and ordinances, which would reduce the impact on floodplains and flood risks during construction and operations. The local flood control agencies and applicable flood control design criteria require projects in areas within the designated 100-year flood zones to design project-specific drainage systems in accordance with findings of site-specific studies. Therefore, construction associated with planned projects in such areas would be designed to comply with regulatory agency requirements. Consistent with the standard requirements of those agencies,

bridge crossing designs would include measures to minimize construction and operations impacts of placing piers in the floodplains and floodways.

In addition, some development within a designated 100-year flood zone may divert or redirect flood flows. However, where these floodplains and floodways exist, project proponents would design projects in accordance with local regulations and permitting so that little to no increase in water surface elevation would occur during project operations. In addition, new development within levee-protected zones could expose more people and structures to flooding risks. However, federal, state, and local agencies (that is, USACE, California Department of Water Resources, municipalities, and local flood districts) will continue to coordinate so that levees are constructed, repaired, and maintained to provide adequate flood protection within potential inundation areas. Planned projects, in combination with the proposed Project, would not otherwise encroach on a 100-year floodplain. Accordingly, development under county and city general plans, as well as other planned projects, would not result in significant cumulative construction or operations impacts on localized or regional flooding by impeding or redirecting flood flows or encroaching on the 100-year floodplain.

As previously described, potential impacts from cumulative development, including the proposed Project and planned transportation and development projects, could combine to result in potential cumulative impacts on groundwater supply, recharge, and quality. The proposed Project would also result in temporary impacts on surface water quality during construction. Temporary water quality impacts can result from disturbed soil areas (DSA) sediment discharge and construction near water resources or drainage facilities that discharge to waterbodies. Permanent impacts to water quality result from the addition of new impervious area. This additional impervious area prevents runoff from naturally dispersing and infiltrating the ground, resulting in increased concentrated flow. However, the proposed Project would include the BMPs, described in Section 3.9, *Hydrology and Water Quality,* that require a stormwater management and treatment plan, a construction Stormwater Pollution Prevention Plan, an industrial stormwater pollution prevention plan, and a flood protection plan, and a drainage plan, to reduce impacts to hydrology and water quality during construction and operations. The proposed Project would also comply with CGP and SWQCCP standards to minimize the potential for impacts to hydrology and water quality.

Conclusion

The permanent conversion of existing land uses to urban or transportation uses associated with new development and transportation projects could result in significant cumulative impacts on groundwater supply, recharge, and quality. The contribution of the proposed Project to those groundwater cumulative impacts would be less than cumulatively considerable because the design does not require using deep groundwater sources, and features to protect groundwater supply, infiltration, and quality would be included in the proposed Project. All potential floodplain and water quality impacts from the proposed Project would be coordinated to be minimized and there would not be cumulatively considerable contributions to any significant cumulative impacts during construction or operations.

6.4.10 LAND USE AND PLANNING

Resource Study Area

The cumulative RSA for land use designation is defined by the permanent construction limits, proposed staging areas, and a half-mile buffer. The half-mile buffer is incorporated because land use and zoning designations located within the RSA would be reasonably expected to experience potential impacts during construction and operation.

Cumulative Condition and Contribution of the Proposed Project

Ongoing growth trends within the cumulative RSA are expected to continue, resulting in commercial, residential, and industrial developments, including the Stockton Wye Track, Cabral Track Extension, Main Street Complete Streets, and Cabral Station Expansion. The planned development projects could result in cumulative impacts on land use in the cumulative RSA if developments result in the conversion of land uses, divide an established community, or conflict with a land use plan or policy. The project site locations for the Stockton Wye Track, Cabral Track Extension, and Cabral Station Expansion are within limited-to-general industrial zoning. The Stockton Wye Track project would be within the construction limits of the proposed Project, at the Stockton Diamond, and the Cabral Station Expansion would be at the former location of the Western Pacific Depot site near the north end of the Project construction limits. The Main Street Complete Streets project would incorporate bikeway and pedestrian infrastructure in industrial and residential zoning areas but would not impact such designations. Additionally, these planned projects must comply with state and local regulatory plans and policies. Mitigation measures would be considered and used during these planned projects to minimize potential land use impacts, as appropriate. Therefore, the cumulative impacts of these collective projects would not be significant.

As discussed in Section 3.10, *Land Use and Planning*, with the implementation of BMPs and mitigation measures, which include coordinating with the City of Stockton to ensure that the City of Stockton's General Plan is amended to reflect the land use designations consistent with what has been identified by the proposed Project, requiring that loss of private industrial property be compensated for at fair market value, providing relocation assistance in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act, and coordinating with the City and UP to establish ownership agreements prior to the ROW acquisition process for parcel remnants to avoid the potential for large open space areas, the proposed Project would be consistent with land use planning in the City of Stockton and all property acquisitions would be properly mitigated.

Conclusion

The proposed Project, in combination with future and planned projects, would not result in significant cumulative impacts on land use and planning. The proposed Project, and other planned projects would comply with state and local regulations related to land use, would not divide an established community, and would be consistent with current land use zoning designations.

6.4.11 NOISE AND VIBRATION

Resource Study Area

The cumulative RSA for noise and vibration is the same area which was considered in the analysis presented in Section 3.11 *Noise and Vibration*. It is sufficiently broad to cover the area in which the potential noise and vibration impacts of the proposed Project, in combination with other projects, could result in cumulative noise and vibration impacts. The noise and vibration RSA for construction and operations includes the proposed Project site and all sensitive receptors that could be exposed to noise and vibration impacts.

Cumulative Condition and Contribution of the Proposed Project

Noise

Cumulative noise impacts could occur from both temporary and permanent increases in ambient noise levels within the RSA and result from noise-generating activities combining during construction or operation of any of the four planned projects identified in Table 6.1-1. These impacts would be considered cumulative impacts if the noise levels from train operations, combined with noise emissions from other projects, exceed FTA standards for severe impacts. Additionally, construction noise emissions from multiple projects could combine to form a cumulative impact if these combined emissions exceed FTA construction noise assessment criteria.

While construction activities would generate noise levels that could result in individual, project-specific impacts that could require project-specific mitigation, it is not considered likely that these would combine with the noise-generating activities of other projects to result in cumulative noise impacts. For this to occur, construction of multiple projects generating high noise levels would have to occur simultaneously and in very close proximity to sensitive receptors such that they combine to create noise levels that exceed FTA standards. This scenario is unlikely to occur because the construction of planned projects would be temporary, and the projects do not generally have overlapping or adjacent construction footprints or time periods. Therefore, there would not be a cumulative construction noise impact.

During operations, none of the four planned projects identified in Table 6.1-1 would result in cumulative noise impacts with the proposed Project. The Cabral Track Extension is outside Project construction limits, and there would be no cumulative noise impacts. There are no noise sensitive receptors near the Cabral Station Expansion or the Stockton Wye project, and the Main Street Complete Streets project would not generate noise impacts. Therefore, no cumulative noise impacts are anticipated at sensitive receptors during operations of these projects.

Vibration

Similar to noise impacts, ground-borne vibration generated by proposed Project construction could combine with vibration from other transportation projects to affect nearby sensitive receptors. If these combined vibration levels exceeded standards for nearby sensitive receptors, it could cause damage to structures and would be a considered a cumulative impact. The construction of planned

transportation projects could cause cumulative vibration impacts on sensitive receptors if construction schedules of these projects overlap and if work that generated high levels of vibration was taking place simultaneously on multiple sites near the same sensitive receptors. While there are few construction activities that generate high levels of vibration, impact pile driving can result in damaging and annoying ground-borne vibration. Ground-borne vibration generally only travels short distances from the vibration source and does not readily combine with other vibration sources to increase in magnitude because of differing frequencies. Therefore, even if construction activities were taking place on adjacent projects at the same time, it is unlikely that there would be multiple vibration sources (such as impact pile drivers) in proximity generating high levels of vibration at the same frequency and at the same time during construction near sensitive receptors. Therefore, there would not be a cumulative construction vibration impact.

The Cabral Station Expansion and the Main Street Complete Streets projects would not generate vibration. The Stockton Wye Track Project, Cabral Track Extension Project, and the proposed Project are separated such that ground-borne vibration would not readily combine. Because of the nature of vibration transmission, no cumulative impacts are anticipated during operations. Therefore, there would not be an operations cumulative vibration impact.

Conclusion

No cumulative noise impacts are anticipated during construction of cumulative projects because the construction of planned projects would be temporary, and the projects do not generally have overlapping or adjacent construction footprints or time periods. The proposed Project includes measures to mitigate project-generated noise and vibration during construction. Therefore, there would not be a significant cumulative construction noise impact caused by or to which the proposed Project would contribute. During operations, the proposed Project would result in moderate and severe noise impacts on sensitive receptors generated by engine and wheel/rail noise from trains on the elevated structure. The proposed Project includes Measure MM NV-3, requiring interior abatement at all sensitive receptors with severe noise impacts, to mitigate project-generated noise and vibration during operation. Therefore, it is not anticipated that these noise emissions would combine with the noise emissions of other planned projects to result in significant cumulative operations noise impacts.

Because of the nature of vibration transmission, no cumulative impacts are anticipated during construction or operations.

6.4.12 POPULATION AND HOUSING

Resource Study Area

The cumulative RSA for socioeconomics, population, and housing is defined by the permanent construction limits, proposed staging areas, and a half-mile buffer. The half-mile buffer is incorporated because communities and housing located within the buffer of the proposed Project would be reasonably expected to experience potential impacts during construction and operations of the cumulative projects as well.

Cumulative Condition and Contribution of the Proposed Project

Under the cumulative condition, recent development trends are expected to continue, potentially resulting in one or more of the following when considered in combination with the cumulative projects: disruption of communities; emissions during construction; displacements and relocations of residences, businesses and community facilities; or contributions to changes in the local economy. The cumulative projects that would occur as a part of the cumulative condition would likely include various forms of mitigation to address any disruption to communities, and displacement of residences and businesses. Development of individual construction plans, coordination with local agencies, and construction phasing would minimize the potential for community impacts within the cumulative socioeconomics, population and housing RSA.

During operations, the Stockton Wye Track, Cabral Track Extension, Main Street Complete Streets, and Cabral Station Expansion projects are expected to improve mobility within the community. The planned projects, such as the Main Street Complete Streets project and the Cabral Station Expansion, would provide the community with long-term benefits. The Cabral Station Expansion would allow more reliable and efficient travel to other communities in the region as well as employment opportunities elsewhere. In addition, the Main Street Complete Streets project would create bikeway and walking infrastructure that would allow for more safe and efficient travel. Based on these factors, the cumulative impact of planned projects would not be significant.

The proposed Project would not induce population growth, contribute to substantial unplanned growth that could lead directly to the need for the construction of new housing or businesses, or indirectly trigger the need for new transportation infrastructure to accommodate the growth in population within the Project area. Emissions from operation of construction equipment near schools and sensitive receptors would be minimized through implementation of Measures BMP AQ-3~~1~~ and BMP AQ-4~~2~~, as discussed in Section 3.2, *Air Quality*.

The proposed Project would result in temporary impacts to transient populations within the Mormon Slough. However, with the implementation of Measure BMP PH-1, requiring that an outreach and engagement plan for the displacement of transient populations be prepared and implemented prior to Project construction, the proposed Project's contribution would not be cumulatively considerable.

Conclusion

With implementation of Measure BMP PH-1, described in Section 3.12, *Population and Housing*, the proposed Project, in combination with the cumulative projects would not result in significant cumulative impacts under CEQA as it relates to population and housing. Development of individual construction plans, coordination with local agencies, and construction phasing would minimize the potential for impacts on communities within the cumulative population and housing RSA.

6.4.13 PUBLIC SERVICES

Resource Study Area

Consistent with the RSA defined in Section 3.13, the cumulative RSA for public services is defined by the permanent construction limits, proposed staging areas, and a 1,000-foot buffer.

Cumulative Condition and Contribution of the Proposed Project

Cumulative impacts related to public services would occur if the incremental demand associated with planned developments under the cumulative condition combined with the proposed Project to result in the need for new or physically altered public facilities that communities within the RSA presently use. None of the planned projects would result in the physical acquisition, displacement, or relocation of public facilities or otherwise have direct or indirect significant impacts on public facilities, including fire protection facilities, police protection facilities, schools, libraries, hospitals, and courts. There are fire stations and schools in the RSA but impacts to these facilities would be less than significant with the implementation of proposed mitigation. As such, the cumulative projects would not increase the demand for public services and facilities.

Conclusion

Significant cumulative impacts on public services would not result from the proposed Project in combination with the other local, planned projects.

6.4.14 RECREATION

Resource Study Area

Consistent with the RSA defined in Section 3.14, the cumulative RSA for recreation is defined by the permanent construction limits, proposed staging areas, and a 1,000-foot buffer.

Cumulative Condition and Contribution of the Proposed Project

Cumulative impacts related to parkland would occur if the incremental demand associated with planned developments under the cumulative condition combine to result in shortage of park facilities for communities or the loss of parkland that communities within the RSA presently use. The Stockton Wye, Cabral Track Extension, Main Street Complete Streets, and Cabral Station Expansion projects would not contribute to demand for park and recreational facilities because they are all infrastructure improvement projects and are not expected to induce population growth. The cumulative projects would not result in the permanent acquisition, displacement or relocation of parks, recreation or community facilities. However, temporary road closures may be required that could limit access to parks and or community facilities. Planned projects must comply with state and local regulatory plans and policies. Additionally, mitigation measures would be considered and used during these planned projects to minimize potential impacts on parks, recreation, and community facilities. Therefore, the construction and operational activity of planned projects within the cumulative RSA would not result in significant cumulative impacts.

As discussed in Section 3.14, *Recreation*, impacts such as noise, dust, and park and public facility access could result from construction and operation of the proposed Project. However, with the implementation of a Construction Transportation Plan that aims to minimize impacts of construction traffic on nearby roadways, a Construction Management Plan (CMP) to address maintenance and pedestrian access during the construction period, a CMP for the maintenance of bicycle and pedestrian access during construction, and a TMP that requires alternate access or detour plans be available early and continuously throughout the proposed Project construction, impacts to parks and recreational facilities from implementation of the proposed Project would be less than significant.

In addition, the proposed Project would not increase the use of parks and recreational facilities in the RSA. Further, the proposed Project does not include recreational facilities, nor does it include any features that may expand recreational facilities. After construction of the proposed Project is completed, the affected area of the park property would be returned to its prior condition, and no permanent modifications to Union Park's recreational features would occur.

Conclusion

After the implementation of the measures identified above, the proposed Project, in combination with the cumulative projects, would not result in significant cumulative impacts on recreation.

6.4.15 TRANSPORTATION

Resource Study Area

The cumulative RSA for transportation and traffic is defined by the permanent construction limits, proposed staging areas, and the area bounding East Weber Avenue to the north, South Wilson Way to the east, South San Joaquin Street to the west and East Charter Way to the south as shown in Figure 3-15.1 in Section 3.15. This area was included in the Traffic Study Area because the roadways located within this area would be reasonably expected to experience potential impacts during proposed Project construction and operation.

Cumulative Condition and Contribution of the Proposed Project

Together, Stockton Wye Track, Cabral Station Expansion, Main Street Complete Streets, and Cabral Station Expansion projects as identified in Table 6-1.1 constitute the cumulative condition relevant to transportation. Under the cumulative condition, ongoing urban development is expected to continue within the cumulative RSA. Traffic volumes on roadways in the cumulative RSA are expected to increase because of planned and future development activity, affecting existing roadways, highways, utilities, airports, and railways. Cumulative impacts also could occur if any individual transportation impacts combined to diminish emergency access, reduce bicycle or pedestrian access, or reduce the level of transit service provided within the cumulative RSA.

During and after construction, cumulative development in the Project Area could also directly affect transit, bicycle, and pedestrian conditions by requiring the rerouting of pedestrian, bicycle, and public transit routes caused by the closure of roadways. Similar cumulative impacts could also occur on

school bus operations in the cumulative RSA. Proposed development and transportation projects identified in Table 6.1-1 would be required to put in place measures to reduce transportation safety impacts, to avoid disrupting public transit and bus travel, and would likely include measures to mitigate roadway VMT and LOS impacts during and after construction.

The Main Street Complete Streets project has proposed several bicycle facilities within the RSA. The proposed bicycle facilities in the Main Street Complete Streets project impacted by the short-term detours due to construction of the Proposed Project include East Main Street and East Market Street. The impacts to the proposed bicycle facilities due to the short-term detours would be minimal.

Proposed closure of Lafayette Street within the RSA as part of the proposed Project would impact emergency access routes. The impact due to this proposed closure would be reduced through additional emergency routes designed in coordination with City of Stockton and grade separations that reduce delays associated with at-grade crossings of the UP main line.

Taken together, the features of the proposed Project, along with the transportation safety measures of other proposed development projects would minimize temporary construction impacts on traffic circulation such that roadway VMT and LOS thresholds would remain within acceptable levels. While some level of disruption in traffic would be expected if construction schedules of planned development and transportation improvements were to occur simultaneously, this disruption would be temporary and individual projects would include measures to avoid major traffic delays. Therefore, it is not anticipated that temporary impacts of construction of multiple projects would combine to result in cumulative impacts.

As discussed in Section 3.15, *Transportation*, the proposed Project is a transportation project rather than a land use project and is thus subject to CEQA Guidelines Section 15064.3, subsection (b)(2), Criteria for Analyzing Transportation Impacts, Transportation Projects, which states "*Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact*" (Emphasis added).

As discussed in Section 3.15, *Transportation*, the "Technical Advisory on Evaluating Transportation Impacts in CEQA," prepared by the State of California Office of Planning and Research (OPR), was the primary source used to assess the need for project-specific VMT analysis. According to the Technical Advisory, "Projects that would not likely lead to a substantial or measurable increase in vehicle travel … generally should not require an induced travel analysis" (that is, VMT analysis), include:

- Grade separation to separate vehicles from rail, transit, pedestrians or bicycles, or to replace a lane in order to separate preferential vehicles (for example, HOV, HOT, or trucks) from general vehicles (OPR 2018:20-21).

Following the guidance in OPR's Technical Advisory, because the proposed Project is primarily a grade separation project to partially grade separate passenger rail from freight rail and to separate rail from roadway traffic, the proposed Project is not likely to lead to measurable or significant

increases in VMT; therefore, VMT analysis is not required for the transportation impacts of the proposed Project.

The proposed Project would result in temporary impacts to traffic; traffic circulation; transit operations; vehicular, bicycle, and pedestrian access; and parking during construction. However, with the implementation of various measures to minimize these impacts (see Section 3.15, *Transportation*) temporary impacts to transportation from implementation of the proposed Project would be less than significant.

In the long term, planned transportation improvements of major roadways in the cumulative transportation RSA are anticipated to improve traffic circulation and safety, and reduce congestion. Taken together, these transportation projects would provide a cumulative regional improvement to transportation circulation and access in the region. Therefore, there would not be a cumulative impact on transportation.

Conclusion

The proposed Project, in combination with future and planned projects, would not result in significant cumulative impacts on transportation, traffic, circulation, and parking. Cumulatively significant impacts also are not anticipated for emergency access, bicycle or pedestrian access, or transit service within the cumulative RSA.

In the long term, planned transportation improvements of major roadways in the cumulative transportation RSA are anticipated to improve traffic circulation and safety and reduce congestion. Taken together, these transportation projects would provide a cumulative regional improvement to transportation circulation and access in the region. Therefore, there would not be a significant cumulative impact on transportation.

6.4.16 TRIBAL CULTURAL RESOURCES

Resource Study Area

The cumulative impact RSA for tribal cultural resources encompasses the permanent construction limits, proposed staging areas, and a quarter-mile buffer. The quarter-mile buffer is included because it is sufficiently broad to cover the area in which the proposed Project's potential cumulative impacts, in combination with other projects, could occur.

Cumulative Condition and Contribution of the Proposed Project

No tribal cultural resources determined to be significant have been identified within the proposed Project APE. However, there is a possibility that previously undiscovered and undocumented archaeological or tribal cultural resources could be affected by the Project's ground disturbing activities. Cumulative impacts could only occur to tribal cultural resources if previously undiscovered resources are identified during construction. Implementing project-specific cultural resources BMPs would ensure that any unknown resources that could be uncovered during construction are properly treated, and any significant impacts mitigated.

Conclusion

After implementation of BMPs identified above, the proposed Project, in combination with future and planned projects, would not result in significant cumulative impacts on tribal cultural resources.

6.4.17 UTILITIES AND SERVICE SYSTEMS

Resource Study Area

The cumulative RSA for utility and service systems is defined by the proposed Project's construction limits and includes the service area of the utility and service systems providers, which extends to the City of Stockton. This RSA would capture impacts generated from the proposed Project's construction and potential regional impacts from the nature of utility connections.

Cumulative Condition and Contribution of the Proposed Project

The cumulative condition for utilities and service systems is evaluated based on the cumulative projects, which include the new Stockton Wye Track, the Cabral Track Extension, the Main Street Complete Streets project, and the Cabral Station Expansion project. The combination of these projects could have potential impacts on existing utility and service systems in the cumulative RSA. The types of utility and service systems in consideration include water, wastewater, stormwater, solid waste, electricity and gas, and telecommunications.

Cumulative impacts would occur if the planned developments from Table 6.1-1, combined with the proposed Project, result in prolonged service interruptions due to planned and future project construction and operations. Constructing the proposed Project would require relocation, removal, or readjustment of existing utility lines, which could result in accidental utility service disruptions. Extensive coordination and notification would be done in cooperation with utility service providers and customers to minimize inconvenience. Such disruptions could happen with electricity and gas, water, wastewater, or telecommunications services. The construction team would be required to comply with existing local and state regulations regarding ground disturbing activities. As for solid waste generation, wastewater generation, and increases in water usage during construction, impacts from such activities are expected to be minimal and temporary. Existing facilities, as listed in Section 3.15, *Utilities and Service Systems*, would have sufficient capacity to accommodate increased usage during the construction period and would not contribute to a need for new or expanded utility infrastructure.

To address the issues identified above, the proposed Project would implement Measure BMP UTIL-1. Measure BMP UTIL-1 requires compliance with Section 4216 of the California Government Code, which requires Project proponents to notify and inform relevant stakeholders prior to construction, thereby reducing any adverse impacts associated with temporary disruptions in utility services. It also requires Project proponents to coordinate with all utility providers during final design and construction planning phases to develop a Utility Relocation Plan (URP) to minimize service disruption.

The proposed Project would also implement Measure UTIL-2, which requires that all utility relocations be coordinated with each utility owner to ensure that the existing utility is protected in place in its current location, as feasible, or access is maintained to these existing utility facilities. Measure BMP UTIL-2 also specifies that the Project would not preclude future potential replacement of utilities within the Project Study Area.

Lastly, the proposed Project would also implement Measure BMP UTIL-3~~2~~. Measure BMP UTIL-3~~2~~ requires utility disruptions and service system inconveniences to be avoided, where possible, and design opportunities be considered to avoid permanent impacts to existing utility infrastructure, where practical. As a result, constructing the proposed Project, in combination with the cumulative projects, would not result in cumulative impacts related to utility services.

Conclusion

The proposed Project, in combination with other planned projects in the cumulative RSA, would not generate significant cumulative impacts under CEQA as related to utility and service systems. There would be advanced notification and coordination with utility service providers prior to construction, as required by local and state regulations, to limit the possibility of temporary service interruptions due to relocation, removal, or replacement of utility lines. In addition, water conservation and solid waste diversion measures would be implemented to reduce impacts from water use and solid waste generation from construction activities. There is no anticipated long-term cumulative operations impact on utilities from the proposed Project in combination with other planned projects.

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7 Other Environmental Considerations

This chapter discusses other statutory requirements under CEQA. These topics include discussions regarding the identification of significant irreversible or irretrievable resource commitments, significant environmental effects that cannot be avoided if the proposed Project is implemented, and the relationship between short-term use of the environment and the maintenance and enhancement of long-term productivity. This chapter is based on the detailed analysis of environmental resources of concern presented in Chapter 3, *Environmental Impact Analysis*.

7.1 Significant Environmental Effects Which Cannot be Avoided if the Proposed Project is Implemented

CEQA requires that all phases of a project be considered when evaluating its impacts on the environment, including planning, acquisition, development, and operation (CEQA Guidelines Section 15126(b)). Based on the CEQA Guidelines, the EIR must include sections that discuss the significant environmental effects of the proposed Project and/or significant environmental effects that cannot be avoided if the proposed Project is implemented. Based on the analyses of resources presented in Chapter 3 of the EIR, no significant, unavoidable impacts were identified. All potentially significant impacts occurring as a result of the proposed Project would be reduced to a less than significant level with mitigation incorporated.

7.2 Relationship between Short-term Uses and Long-term Productivity

Constructing the proposed Project would require an investment of materials to create new transportation infrastructure and upgrade existing electrical infrastructure. This investment of materials is expected to include natural resources such as rock and aggregate (for example, for the production of cement for construction activities and for alignment and other facility foundations), dirt (for example, for buildup of embankments), steel (for example, for rail structures and tubular steel poles), wood (for example, for wood poles), other building materials, and various structural components. Fossil fuels would be consumed during construction of the proposed Project. In addition, the proposed Project would require permanent conversion of land to accommodate the new transportation infrastructure. In many cases, the land has an economic use supporting urban structures (including businesses and industries) and local roads. The consequences of these land conversions are described in Chapter 3.

As discussed in Chapter 1, *Goals and Objectives*, Stockton Diamond is the busiest at-grade railway junction in California. The current at-grade Stockton Diamond configuration results in significant delays to BNSF and UP trains, including those serving the Port of Stockton, and causes delays to, and impacts service reliability for, ACE and Amtrak San Joaquins passenger trains as a direct result of conflicts between trains at the Stockton Diamond. Train congestion also causes local delays at

roadway-rail grade crossings as well as the potential for motor vehicle, rail, bicycle, and pedestrian conflicts. The proposed Project would provide benefits such as reduced passenger and freight rail delays, enhanced safety at roadway-rail grade crossings, increased throughput and goods movement, and reduced fuel consumption. The proposed Project would also provide improvements to air quality and GHG emissions. The proposed Project would improve accessibility to job markets and quality of life by improving safe and reliable transportation choices locally and regionally. Improving the transportation system's accessibility and reliability would increase the economic competitiveness of the San Joaquin Valley, as well as the state's industries and overall economy. Chapter 1 describes the proposed Project's benefits in more detail.

8 Public and Agency Involvement

Pursuant to CEQA requirements, SJRRC, as the lead agency under CEQA is implementing a public and agency involvement program as part of the environmental review process for the proposed Project. This chapter describes the continuing public and agency involvement activities conducted, as well as those planned for future action. To continue building awareness, engagement, and support throughout Project development, SJRRC plans to develop a second video, conduct ongoing stakeholder coordination, and host up to four additional Stakeholder Working Group (SWG) meetings prior to the Final EIR adoptions by the SJRRC Board.

8.1 Project Communications Plan

A multilingual Communications Plan was developed and is being implemented for the proposed Project (SJRRC 2020; Appendix H). Due to the global pandemic and the Governor's stay-at-home orders and health mandates, the Communications Plan focuses on delivering a multi-faceted communications program to reach and engage diverse audiences effectively while remaining virtual. Digital tools such as an interactive website, social media, and virtual meeting forums provide convenient access to information and opportunity for input while grass roots efforts include development and distribution of educational pieces, telephone interviews, and briefings with community leaders to identify ways to help reach audiences during these unprecedented times. The goals of the Communications Plan are to:

- Provide timely and effective Project-specific information at key stages
- Build understanding, awareness, and support for the Project
- Provide opportunities for effective, valuable public engagement and input throughout the planning and environmental processes

To support these goals, the Communications Plan identifies the following objectives for a successful public and agency involvement program:

- Support an open and transparent planning process
- Implement robust environmental justice noticing and public outreach activities
- Use multilingual traditional and online digital engagement strategies and tactics to broaden reach as well as connect with target audiences
- Engage key local and regional stakeholders as well as the general public to foster and maintain lasting relationships while promptly addressing concerns as they arise.

The public and agency involvement program includes the following efforts:

- **Public Involvement and Outreach**: Development and distribution of bi-lingual (Spanish/English) materials, website, social media posts and advertisements. Informational materials include

FAQs; fact sheets; mailers; digital engagement including an interactive website, e-blasts, social media campaign and advertisements; media relations including distribution of press releases and public notice advertisements; informational and CEQA required public meetings held virtually, one-on-one and SWG virtual meetings, presentations, and briefings.

- **Agency Involvement**: Implement and attend scoping meetings, Project Development Team (PDT) meetings, briefings with various representatives, and other consultation.
- Notify the public and circulate the Draft EIR

Per the Communications Plan, regular and ongoing communications has occurred and will continue throughout the planning efforts to build awareness, educate, and obtain input on the purpose and needs and potential impacts for this rail improvement project. The Communications Plan identifies four key stages within the environmental process that trigger proactive communications and engagement activities to share progress and seek informed input into Project development. At each key stage, the Project team collaborates with decision makers and conducts meetings with various civic and community stakeholders as initial activities to set expectations and address concerns prior to engaging the general public. Using existing relationships and building new ones, SJRRC is collaborating with community leaders and representatives to share timely information through their established communications tools in an effort to create transparency and build trust in the planning process. One example is through the formation of the diverse SWG (see Section 8.4.2 for more information on SWG meetings) who act as a conduit between the Project team and the public. Through SJRRC's collaboration efforts, they have received close to 100 letters of support for the Stockton Diamond Project. Key Project engagement stages include:

- **Stage 1: Kickoff/Environmental Scoping**: Introduce the Project and gather initial input from key stakeholders (completed as part of NOP public scoping period)
- **Stage 2: Project Progress**: Maintain engagement and build understanding and awareness of Project activities
- **Stage 3: Draft Environmental Document Circulation**: Share Project information and seek input on draft environmental document(s)
- **Stage 4: Final Environmental Document**: Publish Final Environmental Document, seek input and build understanding and awareness of the Project decision and next steps.

8.1.1 DOCUMENTATION AND RESPONSE PROTOCOL

During the Project planning process, the main goal of proactive outreach is to solicit informed input into the Project and process. Key elements in soliciting input are to listen, document, and be responsive. Responsiveness assures members of the public that they were heard and maintains integrity in the engagement process.

The established protocol includes acknowledging receipt of comments as well as timely response to questions, as appropriate based on medium type. The team is documenting and managing appropriate response of all input received through an online comment management system.

To follow CEQA guidelines, the Project team records all input, comments, and questions submitted during the Public Comment Periods for review by the Project team. Comments received during the Draft EIR circulation will be recorded and will be responded to within the Final EIR.

8.2 Public Scoping

On August 19, 2020, SJRRC officially launched the environmental review process for the proposed Project with an NOP for an EIR. The NOP was filed with the State Clearinghouse (SCH#2020080321) and circulated to public agencies and other interested parties in compliance with Section 15082(a) of the CEQA Guidelines. The NOP formally initiated the CEQA environmental review processes and informed the public that this Draft EIR was being prepared, identified public scoping meeting information, and established methods for how to provide comments on the Project during the 45-day public comment period (August 19 to October 3, 2020).

During this time, several public outreach and engagement tactics were deployed by the Project team to raise awareness, including alerts on the Project's bilingual website, SJRRC/ACE social media platforms, media releases and advertisements, a bilingual direct mailer, electronic notices, and stakeholder coordination through telephone discussions and virtual meetings. These efforts resulted in a total reach of over 275,000 community members through the following:

- 16 social media posts on three platforms / 1 social media advertisement
- 11 electronic notices (eight from Project email, one from Latino Times, and two from SJRRC to ACE ridership)
- 6,065 mailers distributed to the Project's contact database (regional stakeholders, property owners, and occupants within a one-mile radius)
- Two advertisements (Stockton Record and Vida en el Valle)
- Three press releases distributed to 235 media outlets resulting in 11 earned articles

The Project team efforts were complimented by SWG and partner agency communications through their established websites, social media platforms, and email distribution lists.

To actively engage the public and stakeholders during the formal 45-day NOP public comment period, and in response to COVID-19 mandates, the Project team also hosted three virtual public meetings using the WebEx events platform. The Project team hosted two WebEx virtual public meetings in English on September 15 and September 16, and one WebEx virtual public meeting in Spanish on September 17, 2020. The initial SWG meeting was held on September 22, 2020 (see Section 8.4.2 for more information on SWG meetings) with subsequent meetings following the scoping period.

The Project received 84 comments, including letters, emails, calls as well as comments provided during the virtual public meetings and submitted through the website from the public and stakeholders during the Project's scoping period (Appendix I, *Public Scoping and Draft EIR*

Summary Reports). Table 8.2-1 provides comment themes identified during the Project's scoping public comment period:

Table 8.2-1: Comment Themes Identified during Project Scoping Public Comment Period

Comment Theme	Specific Comments
Agency Coordination	- Corridor transportation projects
Air quality	- Analysis and impacts - Project-related emissions
Approval Process	- NEPA assignment Memorandum of Understanding and FRA list of projects
Community	- Business displacements - Community benefit agreement
Concepts/Alternatives	- Right-of-way acquired - Train storage south of Tamien - Request for plans/designs depicting Project - Drone video footage of Project (visual animations) - Compatible with modernization of rail travel (higher speed designs) - Clearance specifications to support electrification of double deck trains - Hybrid option that depresses BNSF tracks
Construction	- Traffic congestion and related impacts - Timeline
Environmental Justice	- Diverse audiences, community benefit
Freight Operations	- Current and future volumes - Electrification - Technology (locomotives, railcar movers)
Funding/Costs	- Private/local contribution and funding sources
Healthy/Safety	- Rail crossings
Noise/Vibration	- Residents and property values
Outreach/Communications	- Communications strategy/plan and pandemic - Additional meetings with SWG, partner agencies, and riders - Compensation for public participation
Passenger Service	- Expansion plans - Frequency increases - Station locations
Transportation Circulation	- Local road impacts

SJRRC has reviewed the input received during the Project's scoping public comment period and have considered these concerns in the preparation of this Draft EIR.

8.3 Alternatives Analysis

As described in Chapter 4, *Alternatives*, a preliminary screening of potential design concepts was conducted to identify the range of reasonable options to meet the purpose and need of the proposed Project as well as the Project's goals and objectives.

Throughout the concept development process, SJRRC established a cooperative and open partnership with each of the host railroads, BNSF and UP, to understand their needs and constraints.

8.3.1 OUTREACH DURING DEVELOPMENT OF DRAFT EIR PROJECT DEVELOPMENT TEAM

Since April 2020, concurrent with the concept development and screening process, the Project team has implemented monthly meetings with the PDT as well as several focus meetings as needed to address specific topics or issues. The PDT consists of the representatives from SJRRC, SJCOG, and the City of Stockton. Approximately 10 meetings have occurred thus far and will continuing during development of this Draft EIR.

8.3.2 STAKEHOLDER WORKING GROUP

SWG was established to help identify and address potential Project-related concerns and issues as well as assist with relaying information to the community throughout each Project stage. SWG members have been asked to meet with the Project team up to six times during the Project's planning process. Between Project inception and the public comment period for this Draft EIR, two SWG meetings have been held to date. The key community organizations invited to be SWG members are included below:

- Acambro Meat Market
- African American Chamber of Commerce of San Joaquin County
- Asian Pacific Islander Association, San Joaquin County Chapter
- California State Assemblywoman Eggman's Office
- California State Senator Galgiani's Office
- Caltrans, District 10
- Catholic Charities Diocese of Stockton
- Central Valley Air Quality Coalition
- Central Valley Rail Working Group
- City of Stockton
- Comerciantes Unidos
- Community Assistance Foundation for Empowerment (C.A.F.E. Inc.) / Café Coop
- Delta-Sierra Group of the Sierra Club
- Downtown Stockton Alliance
- El Concilio
- Environmental Justice Partners / Workforce and Green Economy
- Fathers & Families of San Joaquin
- Greater Stockton Chamber of Commerce
- Healthy Neighborhoods Collaborative
- Lao Family Community Empowerment
- Little Manila Rising

- Port of Stockton
- PUENTES/Boggs Tract Community Farm
- Reinvent South Stockton Coalition
- Reinvent Stockton Foundation
- Restoration for Life Ministries
- Rotary Club of Stockton Sunrise
- San Joaquin Bike Coalition
- SJCOG
- San Joaquin County Public Works
- San Joaquin County Hispanic Chamber of Commerce
- San Joaquin County, Supervisor Villapudua's Office
- Stockton Bicycle Club
- Stockton Fire Department
- Stockton Police Department
- Third City Coalition
- Visionary Home Builders of California
- Visit Stockton

Throughout Project development, the Project team has continued to engage various agency stakeholders with individual meetings outside of the PDT and SWG. These agency stakeholder engagement activities are briefly summarized below:

- The Project Team provided a Project overview and update to the Stockton Sunrise Rotary on February 9, 2021.
- City of Stockton – Focus meetings between SJRRC and the City of Stockton have occurred since Project initiation. Dates and key topics are summarized below:
  - May 5, 2020 – Local road crossing impacts and traffic circulation
  - August 20, 2020 – Project overview to City Department Managers
  - October 13, 2020 – NOP/Scoping summary and traffic discussion
  - December 17, 2020 – Current and proposed emergency response routes
- Caltrans District 10 – The Project team presented the proposed Project to District 10 staff in October 2020 at the District's All Hands Meeting.
- SJAFCA – The Project team met with SJAFCA multiple times to coordinate on Mormon Channel hydraulics and future planning.
- UP and BNSF – As described above, the Project team has conducted robust and continuous outreach with each railroad since the onset of Project development, with coordination efforts including:
  - Identifying potential needs, challenges, issues and opportunities for development, and advancing the proposed Project
  - Consideration of conceptual alternatives for the proposed Project
  - Facilitation of preliminary conceptual design review for Project alternatives
  - Identification of a preferred alternative for further study and design

- SJJPA and Valley Rail Working Group – The Project team presented the initial Project concepts in summer 2020 and SJRRC provided regular updates to both agencies.
- Utility Service Providers – Since April 2020, the Project team has been coordinating with various utility service providers. The Project team initially reached out to a total of 12 utility service providers, seven of which have confirmed they have utilities within the Project limits. Utility service providers initially reached out to include:
    - AT&T (confirmed)
    - California Water Service Company (confirmed)
    - Century Link/Level 3 (confirmed)
    - City of Stockton Storm Drain and Sewer (confirmed)
    - Comcast
    - CVIN LLC
    - Kinder Morgan
    - Verizon (confirmed)
    - PG&E Gas and Overhead Electric (confirmed)
    - Sprint (confirmed)
    - Terradex Inc.
    - TPX Communications

In October 2020, a utility verification letter and conflict map were sent to each of the above agencies. The conflict map provided detailed locations of potential conflicts and a letter requesting utility agencies to provide more detailed information on their facility's vertical location. The utility agencies liability rights including documentation were also requested. None of the agencies were able to provide more detailed vertical information.

In addition to these coordination activities with specific agency stakeholders, SJRRC continues to keep the Project website (stocktondiamond.com) updated with information on public engagement efforts (for example, press releases, meetings information, schedule updates and recent developments), the environmental review process, resources, and Project funding. Also available on the Project website is this Draft EIR and bilingual information on how to participate during the public review period and how to navigate the document.

8.3.3 TRIBAL COORDINATION MEETINGS

Pursuant to CEQA requirements, SJRRC coordinated with Native American tribal representatives during the preparation of this Draft EIR. On November 9, 2020, SJRRC initiated consultation with the Yokut and the Confederated Villages of Lisjan tribes pursuant to AB 52. Section 3.16, *Tribal Cultural Resources*, includes detailed information on coordination with Native American tribes.

8.3.4 REGULATORY CONSULTATION

During the development of this Draft EIR, the Project team coordinated with various regulatory agencies regarding specific resources under the jurisdiction of these agencies. A summary of these consultation activities is provided below.

- **National Marine Fisheries Service**: As discussed in Section 3.3, *Biological Resources*, at one time NMFS had designated the Calaveras River and the Mormon Slough as critical habitat for Central Valley steelhead. Additionally, NMFS information indicated that EFH for Chinook salmon occurs within the Project Area. Informal Section 7 consultation was initiated with NOAA on February 25, 2021, and consultation efforts are ongoing at this time.
- **San Joaquin Council of Governments**: The Project team coordinated with SJCOG, the agency responsible for the management of the SJMSCP, on the proposed Project's potential participation in the Plan. SJMSCP provides compensation for open space conversion and streamlined coverage for regional special-status species under state and federal law. Participation in SJMSCP is limited to special-status species coverage and does not rule out the need for other permits. On October 28, 2020, the Project team contacted SJCOG to determine Project eligibility in SJMSCP and determined that the proposed Project is eligible to participate. In December 2020, SJRRC began to coordinate with the SJCOG for the proposed Project to participate in the SJMSCP.

8.3.5 NOTIFICATION AND CIRCULATION OF DRAFT EIR

Promotion Activities:

To raise awareness of the availability of the Draft EIR for public review, several notices and other activities were undertaken pursuant to CEQA requirements. Materials related to the Draft EIR circulation are provided in Appendix K. All communications were implemented in English and Spanish, and included the following:

- Two Notice of Availability (NOA) publication advertisements (Stockton Record and Vida en el Valle)
- One press release distributed to 235 media outlets
- Eight bilingual standard posts (included four boosted posts) on three social media platforms and one bilingual social media advertisement
- Eight email blasts to the proposed Project's stakeholder database containing 600 contacts
- One email blast to Latino Times database containing over 100,000 readers
- Multiple email blasts to ACE ridership of 600 contacts
- 5,463 mailers with a perforated comment card distributed to the Project contact database (regional stakeholders, property owners, and occupants within a one-mile radius of the proposed Project study area)
- A bilingual poster with comment cards displayed at 13 repositories/stakeholder locations in Stockton (see list below). The poster was also emailed to the Project's stakeholder database to help post via their locations and established online tools.
    - Cafe Coop (42 N Sutter Street #208, Stockton, CA)
    - Catholic Charities Stockton (1106 N El Dorado Street, Stockton, CA)
    - Cesar Chavez Central Library (605 N El Dorado Street, Stockton, CA)

  - Community Partnership for Families: Dorothy L. Jones/CUFF Family Resource Center (2044 Fair Street, Stockton, CA)
  - Fair Oaks Library (2370 E Main Street, Stockton, CA)
  - Huddle Cowork by Launch Pad (110 N San Joaquin Street. 2nd Floor, Stockton, CA)
  - In-Season Market (215 E Alpine Avenue, Stockton, CA)
  - Maya Angelou Branch Library (2324 Pock Lane, Stockton, CA)
  - Restoration for Life Ministries (1234 E Anderson Street, Stockton, CA)
  - San Joaquin County (44 N San Joaquin Street, Stockton, CA)
  - Stockton City Hall (425 N El Dorado Street, Stockton, CA)
  - Troke Library (502 W Benjamin Holt Drive, Stockton, CA)
  - Weston Ranch Branch Library (4606 McCuen Avenue, Stockton, CA)
- A mass text alert sent from a local Stockton realtor and friend of a SJRRC employee to 3,128 local property owners. The Project team confirmed there were no privacy violations prior to the text being sent on April 20, 2021.
- A Notice of Completion indicating the Draft EIR was filed with the State Clearinghouse, sent to state agencies, and posted on the Project's website.
- A Notice of Availability of the Draft EIR was filed with the San Joaquin County Clerk public posting.
  - The Draft EIR was provided to federal, state, and local agencies, regional transportation agencies, and organizations and persons who had expressed an interest in the proposed Project.
  - The Draft EIR was available on the Project and SJRRC websites, (https://stocktondiamond.com/) and on CD if requested.
  - Printed copies of the Draft EIR along with comment cards were available for review at:
    - Catholic Charities Diocese of Stockton – 1106 N. El Dorado Street, Stockton, CA
    - Café Coop – 42 N Sutter Street, Stockton, CA
    - El Concilio – 445 N San Joaquin Street, Stockton, CA
    - Bishop Bridges, Restoration for Life Ministries – 1234 Anderson Street, Stockton, CA
    - San Joaquin Regional Rail Commission – 949 E Channel Street, Stockton, CA
    - California High Speed Rail Authority – 770 L Street, Suite 620, Sacramento, CA
    - Stockton City Hall – 425 N El Dorado Street, Stockton, CA
    - San Joaquin County – 44 N San Joaquin Street, Stockton, CA

Information about the bilingual virtual public meeting was also posted on the Project website.

Engagement Activities:

The communications notices included where to find digital and hard copy versions of the Draft EIR for review, details about the bilingual virtual public meeting, and information on how to provide comments during the public comment period. The Project team's efforts to build awareness of the availability of the Draft EIR for review and comment were complemented by stakeholder and partner agency communications through their established websites, social media and email distribution lists.

- In an effort to reach all interested and potentially impacted public members during the circulation period for the Draft EIR as well as allow convenient participation in a safe environment while social distancing due to COVID-19 mandates, the Project team identified additional engagement opportunities including:
- Hosting a bilingual virtual public meeting, in English and in Spanish concurrently.
- Developing a Citizen's Guide to serve as a quick reference about the Project including local benefits, key findings of the Draft EIR, and details on how to comment. The guide condensed and streamlined very technical information with simplified content and graphics to visually tell the story to all publics. An electronic copy was distributed to key stakeholders via email blasts and was posted on the Project website and social media. Hardcopies of the guide were also placed at the eight repository locations (listed above) and at eight additional locations throughout Stockton (listed below):
    - Fair Oaks Library (2370 E Main Street, Stockton, CA)
    - Cesar Chavez Central Library (605 N El Dorado Street, Stockton, CA)
    - Troke Library (502 W Benjamin Holt Drive, Stockton, CA)
    - Weston Ranch Branch Library (4606 McCuen Avenue, Stockton, CA)
    - Maya Angelou Branch Library (2324 Pock Lane, Stockton, CA)
    - In-Season Market (215 E Alpine Avenue, Stockton, CA)
    - Community Partnership for Families: Dorothy L. Jones/CUFF Family Resource Center (2044 Fair Street, Stockton, CA)
    - Huddle Cowork by Launch Pad (110 N San Joaquin Street, 2nd floor, Stockton, CA)
- Attending five virtual stakeholder forums including:
    - Downtown Stockton Alliance – Virtual presentation on March 17, 2021 to give an overview of the Project and a summary of the Draft EIR's key findings.
    - Rise Stockton – Virtual presentation on April 15, 2021 to give an overview of the Project and a summary of the Draft EIR's key findings.
    - Stockton Rotary – Virtual presentation on April 21, 2021 to give an overview of the Project and a summary of the Draft EIR's key findings.
    - Catholic Charities Healthy Neighborhood Collaborative – Virtual presentation on April 21, 2021 to remind attendees that there's still time to submit input and how to comment.
    - San Joaquin Partnership – Virtual presentation on April 22, 2021 to remind attendees that there's still time to submit input and how to comment.

9 References

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