HELIX
Environmental Planning

Gateway Station West Project

Draft Supplemental Environmental Impact Report
Volume II

December 2015

Prepared for:
City of Newark
Community Development Department
37101 Newark Boulevard
Newark, CA 94560

Prepared by:
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GATEWAY STATION WEST PROJECT
NEWARK, CALIFORNIA

DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT

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TABLE OF CONTENTS

TABLE OF CONTENTS (cont.)

TABLE OF CONTENTS (cont.)

TABLE OF CONTENTS (cont.)

TABLE OF CONTENTS (cont.)

LIST OF APPENDICES

TABLE OF CONTENTS (cont.)

LIST OF FIGURES

LIST OF TABLES

TABLE OF CONTENTS (cont.)

LIST OF TABLES (cont.)

Acronyms and Abbreviations

AB	Assembly Bill
AAQS	ambient air quality standards
ABAG	Association of Bay Area Governments
AC	Alameda-Contra Costa Transit
ACCMA	Alameda County Congestion Management Agency
ACCWP	Alameda Countywide Clean Water Program
ACE	Altamont Commute Express
ACFC	Alameda County Flood Control and Water Conservation District
ACT	Alameda County Transit
ACTC	Alameda County Transportation Commission
ACTIA	Alameda County Transportation Improvement Authority
ADRR	Archaeological Date Recovery Report
ADT	average daily traffic/trips
amsl	above mean sea level
AQMD	Air Quality Management District
APCD	Air pollution control district
ASCE	American Society of Civil Engineers
ASHARE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
ASTM	ASTM International, formerly American Society for Testing & Materials
ATS	advanced treatment systems
AUL	activity and use limitations
BAAQMD	Bay Area Air Quality Management District
Basin	San Francisco Bay Area Air Basin
BAT	Best available technology economically achievable
BART	Bay Area Rapid Transit
Bay Trail	San Francisco Bay Trail
BCT	Best conventional pollution control technology
BMPs	best management practices
BSA	Berlogar Stevens & Associates
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CAFE	Corporate Average Fuel Economy
CALGreen	California Green Building Code
California Register	California Register of Historic Resources
Cal-ARP	California Accidental Release Program
Cal-IPC	California Invasive Plant Council
Cal-OSHA	California Occupational Safety and Health Administration

CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CARE	Community Air Risk Evaluation
CASQA	California Stormwater Quality Association
CAT	Climate Action Team
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDC	California Department of Conservation
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CESA	California Endangered Species Act
CFCs	chlorofluorocarbons
CFR	Code of Federal Regulations
Cfa	cubic feet per second
CGS	California Geological Survey
CIP	Capital Improvement Plan
City	City of Newark
CH_4	methane
CHHSL	California Human Health Screening Levels
CHP	California Highway Patrol
CMP	Congestion Management Plan
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO_2 equivalent
COC	chemical of concern
COMM	commercial and sport fishing
County	Alameda County
CPUC	California Public Utilities Commission
CRHR	California Register for Historic Resources
CSCI	California Stream Condition Index
CSMP	Construction Site Monitoring Program
C_3H_4O	acrolein
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	decibels
DEH	California Department of Health

dB(A)	A-weighted decibels
DPM	diesel particulate matter
DRC	Dumbarton Rail Corridor
DRS	Dumbarton Rail Service
DTSC	Department of Toxic Substance Control
du/ac	dwelling unit/acre
DWR	Department of Water Resources
EDR	Environmental Date Resources, Inc.
EIR	environmental impact report
EO	Executive Order
ESA	environmental site assessment
ESL	environmental screening levels
F	Fahrenheit
FAA	Federal Aviation Administration
FARR	Final Archaeological Resources Report
FR	Federal Register
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FRAs	Federal Railroad Administration
FS	Feasibility Study
FTA	Federal Transit Administration
g/l	grams per liter
GHAD	Geologic Hazards Assessment District
GHG	greenhouse gas
GWP	Global Warming Potential
H_2O	water vapor
H_2S	hydrogen sulfide
HA	hydrologic area
HAP	hazardous air pollution
HCP	Habitat Conservation Plan
HELIX	HELIX Environmental Planning, Inc.
HFCs	hydrofluorocarbons
HMRP	Hazardous Materials Remediation Plan
HOV	high occupancy vehicle
HRA	Health Risk Assessment
HREC	Historical Recognized Environmental Condition
HSA	hydrologic subarea
HU	Hydrologic Unit
HVAC	heating, ventilation, and air conditioning
HWCL	Hazardous Waste Control Law

I-	Interstate
IBC	International Building Code
ICC	International Code Council
In/sec	inches per second
IPCC	Intergovernmental Panel on Climate Change
ITE	Institute of Transportation Engineers
kBTU	British thermal unites
kV	kilovolt
kWh	kilowatt
LCFS	low-carbon fuel standard
L_{DN}	day-night average noise level
LDR	low-density residential
L_{EQ}	equivalent sound level
LHMP	Local Hazard Mitigation Plan
LID	Low Impact Development
LOS	level of service
LRAs	Local Very High Severity Area
LUST	leaking underground storage tank
MBTA	Migratory Bird Treaty Act
MDR	medium-density residential
MEP	maximum extent practicable
MERV	Minimum Efficiency Reporting Value
mg/kg	milligrams per kilograms
MHDR	medium/high-density residential
ML	Limited Industrial District
MLD	most likely descendant
MMRP	Mitigation, Monitoring, and Reporting Program
MMT	million metric tons
MF	multi-family
Mg	General Industrial District
MP	Industrial Park District
mpg	miles per gallon
mph	miles per hour
MPO	Metropolitan Planning Organization
MT	metric tons
MTC	Metropolitan Transportation Commission
MW	megawatt
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NASA	National Aeronautical and Space Administration
NAVD	North American Vertical Datum
NEPA	National Environmental Policy Act

NGVD	National Geodetic Vertical Datum
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic and Safety Administration
NIH	National Institutes of Health
NO	nitrogen oxide
NO_2	nitrogen dioxide
NO_3	nitrate
NOA	naturally occurring asbestos
NOAA	National Oceanic and Atmospheric Administration
NOC	Notice of Completion
NOP	Notice of Preparation
NO_X	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historical Places
NSC	former Newark Sportsman's Club
NSLU	noise-sensitive land uses
NWIC	Northwest Information Center
NWR	National Wildlife Refuge
O_3	ozone
OAP	Ozone Attainment Plan
OEHHA	Office of Environmental Health Hazard Assessment
OHP	Office of Historic Preservation
OHWM	ordinary high water mark
OSHA	US Occupational Safety and Health Administration
P	Park
PAH	polycyclic aromatic hydrocarbons
Pb	lead
PCA	Priority Conservation Areas
PCB	polychlorinated biphenyls
PDA	Priority Development Areas
PID	photoionization detector
PFCs	perfluorocarbons
PG&E	Pacific Gas & Electric
pH	measure of acid and base properties
$PM_{2.5}$	particulate matter less than 2.5 microns in aerodynamic diameter
PM_{10}	particulate matter less than 10 microns in aerodynamic diameter
POS	park and open space
ppb	parts per billion
ppm	parts per million
PPV	peak particle velocity
PRC	Public Resources Code
PRG	Preliminary Remediation Goal

Project	Gateway Station West Project
Qhb	Holocene flood basin deposits
RARE	Rare, Threatened or Endangered Species
RCNM	Roadway Construction Noise Model
REC	Recognized Environmental Conditions
REC-1	contact recreation
REC-2	non-contact recreation
REAP	Ran Event Action Plan
RMP	Risk Management Program
RMS	root mean square
ROG	reactive organic gases
ROW	right-of-way
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SC	Specific Conductance
SCR	Site cleanup requirements
SCS	Soil Conservation Service Sustainable Community Strategy
SEIR	Supplemental Environmental Impact Report
sf	square feet
SF_6	sulfur hexafluoride
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SJRRC	San Joaquin Regional Rail Commission
SLIC	State Spills, Leaks, Investigation and Cleanup
SMHM	salt marsh harvest mouse
SO_2	sulfur dioxide
SO_X	
Specific Plan	Dumbarton Transit Oriented Development Specific Plan
SHPO	State Historic Preservation Officer
SPCR	Southern Pacific Coast Railroad
SPRR	Southern Pacific Railroad
SPWN	spawning, reproduction, and/or early development
SR	State Route
SRAs	State High Fire Severity Areas
SRMA	Special Recreation Management Areas
SVOC	semi-volatile organic compound
S_{WL}	sound power level
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board

TACs	toxic air contaminants
TIS	Traffic Impact Study
TM	Tentative Map
TMDL	total maximum daily load
TOD	Transit Oriented Development
TPH	total petroleum hydrocarbon
TPHd	diesel
TPHg	gasoline
TPHmo	motor oil
TSM	Transportation System Management
TSS	total suspended solids
TTLC	total threshold limit concentrations
ug/m^3	micrograms per cubic meter
UBC	Uniform Building Code
umhos/cm	micro-mhos per centimeter
US	United States
USACE	US Army Corps of Engineers
URF	Unit Risk Factor
USC	United States Code
USDOT	US Department of Transportation
USEPA	US Environmental Protection Agency
USFWS	US Fish and Wildlife Service
USGS	US Geological Survey
VdB	vibration decibels
VIA	Visual Impact Assessment
VOC	volatile organic compounds
WILD	wildlife habitat
WSA	Water Supply Assessment

Section 1.0

INTRODUCTION

1.0 INTRODUCTION

1.1 OVERVIEW

The City of Newark (City) prepared this supplement to the previously certified environmental impact report (EIR) for the Dumbarton Transit Oriented Development (TOD) Specific Plan (RBF Consulting [RBF] 2011; State Clearinghouse No. 2010042012) to evaluate the environmental effects of the proposed Gateway Station West Project (project or proposed project). This Supplemental EIR (SEIR) has been prepared in accordance with the requirements of the California Environmental Quality Act (CEQA) of 1970, as amended, the State CEQA Guidelines, as amended, and the Dumbarton TOD Specific Plan (Specific Plan) approved by the City with an amendment to the City General Plan on September 8, 2011. The proposed project is a residential development and open space area on 54.5 acres located within the southwest portion of the Specific Plan area.

The Specific Plan is a master plan to guide the development of approximately 205 acres of formerly industrial land located at the western edge of the City, and south/southwest of the separately planned Dumbarton Rail Corridor (DRC) Project. The Specific Plan includes development of up to 2,500 residential units, office, retail public/quasi-public, and park and open space in close proximity to retail space, community-serving buildings, parks and open space, and to planned future transit service along the DRC. Consistent with its association with the DRC Project, the Specific Plan provides space for a multi-modal transit station that includes commuter train service along the DRC. Like the DRC Project, the transit station is being implemented separately as part of the Dumbarton Rail Service (DRS) Project. The Specific Plan is not dependent in any way upon the proposed DRC or DRS projects which are separate projects undergoing environmental review by other public agencies.

The environmental impacts resulting from the implementation of the Specific Plan were disclosed in the Dumbarton TOD Specific Plan EIR (RBF 2011). The Specific Plan EIR provides program-level analysis of the environmental effects of implementing the Specific Plan for properties contained within the plan area (other than the Torian project site, which was analyzed on a project-level), and includes mitigation measures to be implemented for future development under the Specific Plan. The proposed project falls within the Dumbarton TOD Specific Plan and it is therefore subject to the Specific Plan Program EIR, which serves as the foundation document for subsequent projects under the program, as well as the project-level analysis contained in this SEIR.

This SEIR is an informational document to inform decision-makers and the public of the potential environmental consequences of approving the proposed residential project, consistent with the approved Specific Plan.

1.2 PURPOSE AND USE OF THE SEIR

In accordance with CEQA (Public Resources Code [PRC] Section 21000 et seq.), if a lead agency determines that there is substantial evidence in light of the whole record that a project may have a significant effect on the environment, the agency must prepare an EIR (State CEQA Guidelines Section 15064(a)(1)). The purpose of an EIR is to inform public agency

decision-makers and the general public of the potentially significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project (State CEQA Guidelines Section 15121[a]). State CEQA Guidelines Section 21093(b) states that EIRs shall be tiered whenever feasible, as determined by the lead agency. "Tiering" refers to using the analysis of general matters contained in a broader EIR (such as the program-level EIR prepared for the Dumbarton TOD Specific Plan) in subsequent EIRs of Initial Studies/negative declarations on narrower projects; and concentrating the environmental review on the issues specific to the later project (State CEQA Guidelines 15152[a]).

Tiering is appropriate when it helps a public agency focus on issues at each level of environmental review and to avoid or eliminate duplicative analysis of environmental effects examined in previous EIRs (State CEQA Guidelines 21093[a]). In accordance with CEQA Section 21093 and CEQA Guidelines Sections 15152, this SEIR tiers off of the Dumbarton TOD Specific Plan EIR (SCH 2010042012) and incorporates the thresholds of significance established in the program-level EIR in its evaluation of the potential environmental impacts of the proposed project. The Dumberton TOD Specific Plan EIR, along with the Specific Plan and other related documents, can be accessed on the City's website at: http://www.newark.org/departments/planning-and-economic-development/on-going-projects/dumbarton-transit-devlopment-area-2/.

This document has been prepared pursuant to State CEQA Guidelines Section 15168(c) to address environmental issues that were not analyzed at a project-level in the Dumbarton TOD Specific Plan EIR. According to State CEQA Guidelines Section 15162(a), a subsequent EIR may be required if there are: (1) substantial changes to the project requiring major revisions of the previous EIR; (2) substantial changes in the projects circumstances; or (3) new information that could not have been known at the time the previous EIR was certified has become available. Since certification of the Dumbarton TOD Specific Plan EIR, project-specific site design has been developed allowing a project-level analysis. The City of Newark, as CEQA lead agency, has determined a supplemental EIR should be prepared rather than a subsequent EIR based on Section 15163(a) of the State CEQA Guidelines which states that the lead or responsible agency may choose to prepare a supplement to an EIR rather than a subsequent EIR if: (1) any of the conditions described in Section 15162 would require the preparation of a subsequent EIR; and (2) only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation. This SEIR summarizes the prior program-level analyses and then analyzes issues not previously evaluated at the project-level. The SEIR identifies additional project-specific impacts and related mitigation measures that are necessary to offset the newly identified impacts.

This SEIR provides decision makers in the City, regulatory agencies, and the general public with relevant information to use in considering the effects of the proposed project. This SEIR will be used for the appropriate discretionary approvals necessary to implement the project, as proposed.

1.3 LEAD, RESPONSIBLE, AND TRUSTEE AGENCIES

The public agency with the greatest responsibility for carrying out or approving the project or the first public agency to make a discretionary decision to proceed with a proposed project should

ordinarily act as the "lead agency" pursuant to State CEQA Guidelines Section 15051(b)(1). The City of Newark is the lead agency and is responsible for ensuring that this SEIR satisfies the procedural and substantive requirements of CEQA. The City is also responsible for considering and certifying the adequacy and completeness of the SEIR prior to making any decision regarding the proposed project.

In addition to the lead agency, other agencies are involved in the CEQA process. Section 15386 of the State CEQA Guidelines defines "trustee agency" as a state agency having jurisdiction by law over natural resources affected by a project which are held in trust for the people of the State of California. In addition, under Section 15381 of the State CEQA Guidelines, "responsible agencies" are those agencies other than the lead agency having discretionary approval over one or more actions involved with development of the project.

Implementation of the proposed project will require permits and approvals from lead, trustee, and responsible agencies, which may include the following:

- City of Newark
- California Department of Fish and Wildlife
- Regional Water Quality Control Board; San Francisco Region
- US Army Corps of Engineers
- US Fish and Wildlife Service
- Union Sanitary District

1.4 ENVIRONMENTAL REVIEW PROCESS

The preparation, review, and certification process for the SEIR involves the steps described below.

1.4.1. Notice of Preparation

In accordance with Section 15082 of the State CEQA Guidelines, the City circulated a Notice of Preparation (NOP) of a SEIR for the project on August 8, 2014 for a period of 30 days. The NOP identified the City as the lead agency, and the notice was distributed to the public, potentially interested local, state, and federal agencies including the responsible and trustee agencies, and the State Clearinghouse to solicit comments on the content of the SEIR. Issues raised in comments to the NOP are discussed below.

Two comment letters were received in response to the NOP. The first letter was received from the State Public Utilities Commission (PUC), specifically the Rail Crossings Engineering Section of the Safety and Enforcement Division. The PUC has jurisdiction over the safety of highway-rail crossings in the state. In the letter, the PUC indicated that any development adjacent to or near the railroad right-of-way should be planned with safety of the rail corridor. The letter specifically references the Willow Street at-grade rail crossing located northeast of the project site and the potential safety effects of increasing motorist and pedestrian traffic at the crossing. In addition, the California Department of Transportation (Caltrans), District 4 indicated in their letter that a Traffic Impact Study (TIS) be prepared to address project impacts to state roadways. In that letter, Caltrans commended the City of Newark for proposing a TOD project near major mass transit.

A copy of the NOP, list of NOP recipients, and the comments received from the two interested parties are included in Appendix A.

1.4.2. Draft Supplemental EIR

This document is the Draft SEIR for the proposed project. In accordance with the requirements of CEQA, the SEIR includes: a summary of the project; a description of the proposed project; a description of the existing environmental setting and potential environmental impacts, including those that were not described in the Dumbarton TOD Specific Plan EIR, and applicable mitigation measures; alternatives to the proposed project; and environmental consequences, including (a) any significant environmental effects which cannot be avoided if the project is implemented; (b) the growth-inducing impacts of the proposed project; and (c) cumulative impacts.

1.4.3. Public Notice/Public Review

The principal objectives of CEQA are that: (1) the environmental review process provides for public participation; and (2) the environmental document serves as an informational document to inform members of the general public and the City as the decision-maker of the physical impacts associated with a proposed project.

The Draft SEIR is circulated for public review which begins when a Notice of Completion (NOC) is filed with the Governor's Office of Planning and Research (State Clearinghouse). Concurrent with the NOC, the City will provide public notice that the Draft SEIR is available for public review and will solicit comments on the SEIR from the public, agencies, organizations, and other interested parties. Filing the NOC starts the 45-day review period for the document during which time the Draft SEIR will be available for review and comment by the public and interested jurisdictions, agencies and organizations. Written comments on this Draft SEIR may be submitted to the City via:

Mail: Terrence Grindall, Assistant City Manager
City of Newark
Community Development Department
37101 Newark Boulevard
Newark, CA 94560
Email: Terrence.Grindall@newark.org

1.4.4. Final SEIR and Public Hearing Process

Following the public review period, comments received on the Draft SEIR will be considered and a Final SEIR will be prepared which will address the written comments received on the Draft SEIR. The Newark City Council will review and consider the Final SEIR before making their decisions to approve, revise, and/or deny the proposed project. Decisions on the Final SEIR will be made following public hearings, during which additional public input will be heard.

Prior to approving the SEIR, the City, as the lead agency, will prepare written findings of fact for each significant environmental impact identified in the SEIR. For each significant impact, the lead agency must: (1) determine if the proposed project has been changed to avoid or substantially lessen the magnitude of the impact; (2) find that changes to the proposed project are

within another agency's jurisdiction, and such changes have been or should be adopted; and (3) find that specific economic, social, or other considerations make mitigation measures or proposed project alternatives infeasible. The findings of fact must be based on substantial evidence in the Final SEIR, the administrative record, and the conclusions required by CEQA.

If the proposed project is found to result in significant and unmitigated impacts, but the City elects to proceed with the proposed project, a "statement of overriding considerations" must be prepared. A statement of overriding considerations explains why the lead agency determines that the benefits of the project outweigh the unavoidable environmental impact of the project.

1.4.5. Mitigation Monitoring and Reporting Program

CEQA requires that when a public agency makes findings based on an EIR, the public agency must adopt a reporting or monitoring plan for those measures which it has adopted, or made a condition of the project approval in order to mitigate or avoid significant effects on the environment (Sections 21081.6 and 21081.7 of the State CEQA Guidelines). The reporting or monitoring plan must be designed to ensure compliance during project implementation. The required "Mitigation Monitoring and Reporting Program" for the proposed project is included as Appendix B.

1.5 PUBLIC PARTICIPATION IN ENVIRONMENTAL REVIEW

The City, as required by CEQA, encourages public participation in the environmental review process. Opportunities for public participation include agency and public responses to the NOP of the Draft SEIR, written comments on this Draft SEIR, and presentation of written or verbal comments at public hearings.

1.6 SCOPE AND ORGANIZATION OF THE SUPPLEMENTAL EIR

1.6.1. Scope of the Supplemental EIR

Section 15161 of the State CEQA Guidelines states that a project EIR "should focus primarily on the changes in the environment that would result from the development project." In addition, a project-level EIR must "examine all phases of the project including planning, construction, and operation." This addendum is intended to provide the information necessary for the City to make a final decision on the current requested application, which consists of constructing the proposed project as identified in the Specific Plan. In accordance with Sections 15162 and 15163 of the State CEQA Guidelines, the SEIR will only review areas of the original EIR where there has been a significant change to the project, the project's circumstances have substantially changed, or where new information that would not have been known at the time of the original EIR has become available. The SEIR will be utilized to augment the previous Program EIR, to the extent necessary to address these new conditions, and to examine mitigation as may be required.

Sections 15120 through 15132 of the State CEQA Guidelines present the required content for Draft and Final EIRs. A Draft EIR must include a brief summary of the proposed actions and its consequences, a description of the proposed project, a description of the environmental setting, an environmental impact analysis, mitigation measures proposed to minimize the significant effects, alternatives to the proposed project, significant irreversible environmental changes,

limitations on the discussion of the impact, effects found not to be significant, organizations and persons consulted, and cumulative impacts.

In accordance with CEQA requirements, this Draft SEIR: (1) identifies the potential significant effects of the proposed project on the environment and indicates the manner in which those significant effects can be mitigated or avoided; (2) identifies any unavoidable adverse impacts that cannot be mitigated; and (3) analyzes reasonable alternatives to the project.

The scope of this SEIR is based, in part, on the NOP prepared for the proposed project and the comments received in response to the NOP as described above in subsection 1.4.1.

1.6.2. Organization of the Supplemental EIR

This SEIR is organized in nine sections.

Section 1.0 – Introduction

This section provides an overview that describes the intended use of the SEIR (State CEQA Guidelines Section 15124[d]), as well as the environmental review process.

Section 2.0 –Summary

Consistent with Section 15123 of the State CEQA Guidelines, this section provides a brief summary of the proposed project, and identifies environmental impacts and mitigation measures through a summary matrix.

Section 3.0 – Project Description

This section includes a description of the projects location and setting, including physical environmental conditions in the vicinity of the project as they existed at the time the NOP was published, consistent with Section 15125 of the State CEQA Guidelines.

This section also provides a detailed description of the proposed project and project objectives, as well as background information, consistent with Section 15124 of the State CEQA Guidelines.

Section 4.0 – Environmental Analysis

This section contains a comprehensive analysis of impacts to each environmental factor evaluated in this SEIR, and the appropriate, feasible measures to minimize or mitigate those impacts, consistent with Section 15126 of the State CEQA Guidelines.

Section 5.0 – Other CEQA Considerations

This section evaluates cumulative impacts resulting from the combination of the proposed project together with other projects causing related impacts, consistent with Section 15130 of the State CEQA Guidelines.

Consistent with Section 15126.2 of the State CEQA Guidelines, this section includes discussions of significant irreversible environmental changes that would be involved in the proposed action

if implemented, as well as unavoidable significant environmental effects, including those that can be mitigated, but not reduced to a level of less than significant. It also includes a discussion of the ways the proposed project could foster economic or population growth, or the construction of additional housing in the surrounding environment.

Section 6.0 – Project Alternatives

Consistent with Section 15126.6 of the State CEQA Guidelines, this section evaluates a range of reasonable alternatives to the project which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project. A total of four alternatives to the proposed project, including two No Project scenarios and two build scenarios, are evaluated in this section of the SEIR.

Section 7.0 – List of Preparers

This section lists the individuals and agencies that assisted in the preparation of the SEIR by name, title, and company or agency affiliation.

Section 8.0 – Individuals and Agencies Contacted

This section lists the individuals and agencies that were contacted during preparation of this SEIR.

Section 9.0 – References

This section lists the references that were used to prepare this SEIR.

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Section 2.0

EXECUTIVE SUMMARY

2.0 EXECUTIVE SUMMARY

2.1. INTRODUCTION

The project is located on the approximately 54.5-acre Gateway Station West property, located within the Dumbarton Transit Oriented Development (TOD) Specific Plan area at the western edge of the City of Newark (City) in southwestern Alameda County.

On September 8, 2011, the Newark City Council certified the Final Environmental Impact Report (FEIR) and adopted a General Plan Amendment (GPA) for the Dumbarton TOD Specific Plan. Because the proposed project falls within the Dumbarton TOD Specific Plan, it is subject to the Specific Plan Program EIR, which serves as the foundation document for subsequent projects under the program, as well as the project-level analysis contained in this Supplemental EIR (SEIR). This document has been prepared pursuant to State California Environmental Quality Act (CEQA) Guidelines Section 15168(c) to address environmental issues that were not analyzed at a project-level in the Dumbarton TOD Specific Plan EIR.

This SEIR is an informational document to inform decision makers and the public of the potential environmental consequences of approving the proposed residential project.

2.2. PROJECT UNDER REVIEW

The project site is located at the southwest corner of the intersection of Hickory Street and Enterprise Drive (formerly Wells Avenue), and is bounded by vacant industrial land on the north, Hickory Street on the east, the Plummer Creek Wetland Mitigation Bank on the south, and solar salt basins on the west. Enterprise Drive terminates near the northeast corner of the property.

The proposed project site design is detailed in Section 3.0, *Project Description*, of this SEIR. To implement the proposed project, a minor adjustment would be needed to the approved Dumbarton TOD Specific Plan (as amended). Because these changes would result in a less than 20 percent change from the original gross acreages approved in the Specific Plan, and pursuant to related criteria in Section 9.4, *Implementation Methods and Programs*, of the adopted Dumbarton TOD Specific Plan; a formal Specific Plan Amendment would not be required for the Gateway Station West Project.

A total of 589 residential units and associated uses would be built within approximately 41 acres of the site (compared to the 652 residential units that could be built on site under the approved Specific Plan). Single-family detached homes (321 units) are planned for Lots 1 through 321, and attached condominiums (268 units) are planned for Lots 322 through 361 (i.e., Units 322 through 589). Single-family lots would implement the Medium Density Residential land use designation in the Specific Plan, and the multi-family units would correspond with the Medium/High Density Residential land use designation. Project residences would include the previously noted 321 single-family homes, 30 townhome structures with a total of 188 units, and 8 nineplex and 2 fourplex structures with a total of 80 units; for a total of 589 residential units. The architectural styles of the single-family homes and townhomes would be Farmhouse, Craftsman and Agrarian, consistent with the Dumbarton TOD Specific Plan form-based code. No project structures would exceed three stories in height. Project parking associated with these homes would include

1,178 off-street covered spots (two per unit for single- and multi-family residences) and an additional 271 total on-site street spots, including 12 handicap accessible spaces.

The project site generally would be accessed from Hickory Street. It also would be accessed via the future extension of 'A' Avenue between Hickory and Willow streets, as well as from Enterprise Drive east of Hickory Street. 'A' Avenue, 'B' Avenue, and 'C' Street would be 36-foot-wide arterial private roadways providing internal access for the project site. Twenty-foot-wide ancillary roadways and driveways would intersect these main roadways, and provide internal circulation for the villages. All roadways on the project site would provide the dimensions necessary for fire truck access.

If the proposed project moves forward before the approved Torian and "SHH" projects within the Specific Plan, the project would construct off-site improvements along Hickory Street, Enterprise Drive and the 'A' Avenue extension, as detailed in Chapter 3.0, *Project Description*. In brief, Hickory Street would be improved within existing right-of-way (ROW) for the northernmost approximately 715 linear feet to include travel lanes, curb and gutter, sidewalks and landscaping. An approximately 300-foot long portion of 'A' Avenue extending east from Hickory Street would be constructed as part of the proposed project if the project moves forward before Torian. Specific improvements are anticipated to include a 56-foot-wide ROW, with two 10-foot-wide travel lanes, two 8-foot-wide parking lanes, two 5-foot-wide sidewalks, and two 5-foot-wide landscape corridors; to be confirmed during final design. The proposed project could also implement improvements to Enterprise Drive within a proposed 90-foot-wide ROW corridor extending approximately 1,100 feet between Hickory and Willow streets; including a 12-foot-wide median, 5-foot-wide sidewalk and adjacent 6-foot-wide landscape corridor along the southern edge of the proposed Enterprise Drive ROW (with all of the noted improvements except the proposed 5-foot-wide sidewalk located within the existing 80-foot-wide Enterprise Drive ROW).

The project would include walkways and sidewalks throughout the site, providing pedestrian access between homes and park areas within the site, as well as connecting to off-site areas. In addition, a section of trail under the proposed project design is a "candidate for status" as part of the San Francisco Bay Trail. The candidate trail would follow portions of the southern and western perimeter of the project site, adjacent to the Plummer Creek Wetland Mitigation Bank on the south, and abutting the western edge of proposed project residential and park development. The candidate trail would eventually provide connectivity to future Specific Plan developments off-site to the north (which is planned to include commercial/retail and the transit station) and to the east (the Torian Project site). The candidate trail would be 20 feet wide and multi-purpose in nature, and include parallel but separate bicycle and pedestrian trails with benches and landscaping. Barriers would be constructed along the southern and western edges of the candidate trail where they abut proposed project development, and adjacent to the solar salt (concentrator) basins.

Four parks providing a mix of active and passive recreational areas would provide a total of approximately 2.24 acres of park area in the proposed project, and would variously include such features as landscaping (including trees), turf areas, outdoor workout equipment/exercise stations, tot lot/shaded play area with a rubberized play structure, a barbeque area, swings, picnic tables, benches, basketball hoops and a sand volleyball court. Trees planted along the perimeters

of the parks would provide some screening between the parks and the adjacent homes. An additional 5.78 acres of paseos (walkways) and associated green areas are proposed on 34 separate parcels throughout the project site. These areas would be landscaped and maintained as community use areas.

A total of 7.55 acres located in the southwest corner of the project site is proposed as permanent open space and would be preserved and maintained as native habitat. The area is characterized by seasonal wetland, with minor upland components within and around the perimeter of the wetland. Although an additional six acres in this area would be donated to a non-profit entity for conservation at some point in the future, the land donation action is not part of the proposed project and is not being evaluated under CEQA in this SEIR.

Infrastructure would include drainage, potable water lines and sewer facilities. A Low Impact Development (LID) storm drain system comprised of bio-retention areas, curbs and gutters along the roadways, and underground storm drain pipes would be installed as part of the project. The existing culvert near the southwestern site boundary would be replaced with a new box culvert (along with related facilities such as headwalls and guardrails, and implementing applicable recontouring/restoration). The Alameda County Water District (ACWD) would supply potable water to the project. Water service to the project site would connect to future water lines in Hickory Street, and would be from 10-inch-diameter water lines installed along 'P' Way, 'A' Avenue, and 'C' Street in accordance with ACWD Standards, and then distributing to smaller 8-inch lines throughout the project.

The ACWD indicated in the adopted Water Supply Assessment (WSA) for the Dumbarton TOD Specific Plan EIR that demand associated with the Specific Plan was consistent with its planning assumptions and is included in its forecast and water supply planning (ACWD 2010). The Union Sanitary District would provide sewer service to the project. Eight-inch diameter sanitary sewer lines would be installed in the main and ancillary roadways throughout the project, and wastewater would gravity-flow off site to the east via a proposed sewer line in 'A' Avenue; continuing east to connect to an existing 36-inch gravity sewer main in Willow Street, to the Newark Pump Station and ultimately to the Alvarado Treatment Plant. Existing access and utility (e.g., electrical, sewer) easements on the project site would remain and are incorporated into the project Tentative Map.

The conceptual landscaping design concentrates plantings along the perimeter of the project site, along village roadways and parking areas, and in active and passive park areas. Open space in the southwestern corner of the project site would not be planted. The project landscaping plan (excluding turf) includes 75 percent California-native, Mediterranean or climate-adapted plants, ornamental trees, shrubs, and groundcover. No plants listed as invasive by the California Invasive Plant Council (Cal-IPC) would be used, and irrigation practices would be weather-based and include moisture and/or rain sensor shutoff mechanisms. No more than 25 percent of the total landscape area would be irrigated turf (not including sport and multiple use fields).

Grading and Phasing

Approximately 41 acres of the 54.5-acre project site would be disturbed during site preparation, grading and construction. Existing on-site structures would be removed, debris and vegetation

would be cleared, and the site would be graded. Any remediation related to naturally occurring asbestos and other sources of contamination would occur as part of these construction activities. Approximately 250,000 cubic yards of soil would be cut and used on site as fill for grading and construction of the building pads, along with an additional 100,000 cubic yards of soil that would be imported to the project site. The project site would be graded to achieve 0.5 to 2 percent slope. Manufactured slopes would be constructed with a maximum 2:1 slope from the top of the pad to the proposed finished ground. Section 15.40.51 of the City's Municipal Code has flood elevation standards for lands within special flood hazard areas as defined by the Federal Emergency Management Agency (FEMA). Post-grading site elevations would comply with those requirements.

Demolition and grading activities are anticipated to begin in September 2016 and are expected to last for four months. Infrastructure construction activities including utilities and construction of the building pads are anticipated to begin in the Spring or Summer of 2017, and are expected to last for six months. Site development activities would immediately follow, with all development construction activities to be completed within approximately four years or by October 2020.

2.3. AREAS OF CONTROVERSY

In accordance with Section 15082 of the State CEQA Guidelines, the City circulated a Notice of Preparation (NOP) of an SEIR for the project on August 8, 2014 for a period of 30 days. The NOP identified the City as the lead agency, and the notice was distributed to the public, potentially interested local, state, and federal agencies including the responsible and trustee agencies, and the State Clearinghouse to solicit comments on the content of the SEIR.

Two comment letters were received in response to the NOP. The Rail Crossings Engineering Section of the Safety and Enforcement Division of the State Public Utilities Commission (PUC) indicated that development planning adjacent to/near railroad ROW should address safety, and specifically referenced the Willow Street at-grade rail crossing located northeast of the project site relative to increasing motorist and pedestrian traffic at that crossing. The California Department of Transportation (Caltrans), District 4, requested that a Traffic Impact Study be prepared to address project impacts to state roadways. A copy of the NOP, list of NOP recipients, and the two comments received are included in Appendix A.

One additional area which may be potentially controversial consists of wetland habitats affected by the proposed project. These habitats are subject to oversight by state and federal agencies. The following coordination and permits will be undertaken for this project: (1) U.S. Fish and Wildlife Service (USFWS) coordination regarding special-status species that may be affected by the project; (2) California Department of Fish and Wildlife (CDFW) coordination regarding special-status species with the potential to occur on site, and regarding impacts to Waters of the State, as well as receipt of a 1602 Streambed Alteration Agreement; (3) U.S. Army Corps of Engineers (USACE) coordination and regarding impacts to waters of the U.S. and receipt of a Clean Water Act (CWA) Section 404 permit; and (4) San Francisco Bay Regional Water Quality Control Board (RWQCB) coordination regarding impacts to waters of the State subject to Section 401 and 402 of the CWA, and the California Water Code, receipt of a Section 401 permit, and regarding appropriate remediation measures and work plans for hazardous materials present in the site.

This SEIR assesses the relevant scoping comments regarding the project, as well as providing detailed analysis of potential wetlands effects, required permits, and review of a wetlands avoidance alternative (refer to Section 2.7, *Alternatives to the Project*, of this Executive Summary). There are no other known areas of particular controversy.

2.4. SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES THAT REDUCE OR AVOID SIGNIFICANT IMPACTS

Project design elements that factor into project impact analyses include both elements specific to the proposed project, as well as (where appropriate) incorporation of mitigative measures detailed and approved in the Dumbarton TOD Specific Plan. Where project design features affect the impact analysis, they are detailed in each technical discussion.

The analysis contained in this SEIR shows that the proposed project would result in significant impacts related to, air quality (direct), biological resources (direct), cultural resources (direct), geology and soils (direct), hazards and hazardous materials (direct), hydrology/water quality (direct), noise (direct and cumulative), and transportation/traffic (direct and cumulative).

The nature of the impacts, the recommended mitigation measures, and the effectiveness of the mitigation in reducing the associated impacts, are identified in Table S-1, *Summary of Significant Effects*.

2.5. ISSUES TO BE RESOLVED BY THE DECISION-MAKING BODY

An EIR is an informational document intended to inform the public agency decision makers and the public of the significant effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the Proposed Project. The lead agency (in this case the City of Newark) must respond to each significant effect identified in this SEIR by making "Findings" for each significant effect. The issues to be resolved include whether or how to mitigate the associated significant effects, including whether to implement a project alternative, the determination of which is to be made by the decision makers. Preparation of a Statement of Overriding Considerations (explaining the overriding value of the Project despite adverse effects) would be required for any remaining significant and unmitigated impacts (i.e., those associated with direct hazardous materials and traffic, as well as cumulative traffic loading at specific intersections and on specific roadway segments).

Issues to be resolved that are directly related to the proposed project include the choice among alternatives and whether or how to mitigate the significant effects. In particular, the City must decide if the significant and unmitigated effects identified for the issue of hazardous materials and transportation/traffic can be reduced further, and determine if other significant impacts associated with air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology/water quality, noise and transportation and traffic have been fully mitigated to below a level of significance. In addition, the City must determine whether any of the project alternatives would substantially reduce significant air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology/water quality, noise and transportation/traffic effects while still meeting key project objectives.

2.6. ALTERNATIVES TO THE PROJECT

CEQA requires an EIR to consider a reasonable range of potentially feasible alternatives that would lessen significant impacts identified for the proposed project and to foster informed decision making. Section 6.0 of this SEIR addresses a number of alternatives, including discussion of alternatives addressed in the Dumbarton TOD Specific Plan EIR, and carries four feasible scenarios through detailed analysis. The section considers a No Project/No Build Alternative, a No Build/Existing Specific Plan Alternative, a Reduced Project Alternative and a Wetland Avoidance Alternative. These alternatives are described below, together with a summary of their findings relative to the proposed project.

2.6.1. No Project/No Build Alternative

The No Project/No Build Alternative assumes that the site would remain in its current physical condition. Existing on-site structures and uses associated with the City police dog training and shooting range, as well as private construction storage activities, could remain; with associated land use patterns and potential for indirect effects to the adjacent undeveloped open space. Even if these existing uses remain, this alternative would not result in additional ground disturbance or increases in intensity of existing use patterns. Accordingly, this alternative would avoid all of the potentially significant impacts associated with building the proposed project. The No Project/No Build Alternative would also reduce the likelihood that existing on-site contamination would be fully remediated (as required for the proposed project), based on the projected lack of incentive for new development to "…absorb remediation costs and facilitate property remediation and redevelopment."

Because the project site would remain largely vacant, the No Project/No Build Alternative would be inconsistent with all housing/development-related goals and objectives in the City General Plan, the adopted Dumbarton TOD Specific Plan and the proposed project. The No Project/No Build Alternative would not permanently place site open space into protected preserve, nor would it contribute to development of recreational opportunities associated with trail uses proposed for the project. It also would not meet the Specific Plan goal of use of primarily vacant land for its highest and best use.

2.6.2. No Project/Existing Specific Plan Alternative

The Dumbarton TOD Specific Plan was adopted by the City in 2011. Although no Specific Plan Amendment is required due to the fact that the proposed changes are within the amount of variance permitted under the approved Specific Plan (up to 20 percent), the proposed project does propose land uses that would result in impacts different from those assessed to the Specific Plan. The projected impacts of the proposed project are therefore also compared with impacts anticipated to occur under the adopted plan (the Dumbarton TOD Specific Plan). Under this scenario, only the portions of the plan applicable to the proposed project area (generally west of Hickory Street and south of Enterprise Drive) are addressed.

Both the No Project/Existing Specific Plan Alternative (Existing Specific Plan Alternative) and the proposed project would affect 54.53 acres within the original full Specific Plan area of 160.3 acres. The adopted Dumbarton TOD Specific Plan shows low, medium, and medium high

residential densities, as well as park and recreational open space acreage. Differences between the two plans include a decrease in residential units under the proposed project from a possible total of 652 to the proposed 589 residences (a difference of 63 homes), with some shifts in housing types as well. Acreage and locations of proposed park or open space areas would remain the same.

Implementation of the Existing Specific Plan Alternative would be anticipated to result in incrementally greater impacts associated with direct and/or cumulative noise, biology and transportation/traffic; and impacts similar to those described for the proposed project for the issues of cultural resources, geology and soils, hazards and hazardous materials, and hydrology/water quality. A potentially significant operational impact identified for NO_X would be associated with this alternative that would not occur for the proposed project. None of the significant impacts identified for the proposed project would be avoided or substantially reduced under this CEQA-required alternative, and these impacts would remain significant. Excluding the focused hazardous materials and transportation/traffic issues, which would remain significant and unavoidable for both the proposed project and this alternative, and operational NO_X, which would remain significant for the alternative, all impacts would be mitigated to less than significant levels for both the alternative and proposed project.

Relative to compliance with proposed project objectives, both the proposed project and the Existing Specific Plan Alternative would be responsive to all proposed project objectives. Both projects generally would: (1) provide on-site residential development consistent with the densities identified in the Dumbarton TOD Specific Plan and the City General Plan Land Use Element, including housing needs identified for the period of 2015 to 2023 in the 2015 Housing Element Update; (2) provide a mix of housing opportunities from single-family to multi-family housing to meet the City's housing needs; (3) create a compact, walkable community with access to employment opportunities; (4) provide residential units within walking distance of the future, planned transit station to generate the ridership necessary to support the station in keeping with the Dumbarton TOD Specific Plan; (5) permanently preserve and/or restore sensitive biological resources (including wetlands) in the southwestern portion of the Gateway Station West project site; (6) set aside land for open space preservation and recreation opportunities, including the candidate trail proposed for San Francisco Bay Trail status; and (7) develop a focused new community with a distinct identity, architectural style and sense of place while being compatible with existing and planned neighborhoods.

The Existing Specific Plan Alternative would be incrementally more responsive to items 1, 2 and 4 as it could more closely adhere to the Dumbarton TOD Specific Plan densities and mix for the subject parcel, as well as the related Dumbarton TOD Specific Plan goal of development of predominantly vacant land for its highest and best use. Relative to the updated General Plan Land Use Element, the two alternatives would both largely meet the objective, but differ in the fine points. The Housing Element recommends 630 units of medium density housing on 41 acres (General Plan designations of medium density and low medium density) as well as a large open space preserve. The Existing Specific Plan Alternative could place the entire 630 units (or even more) on site, but would have seven more acres than the proposed project of medium high density housing. The proposed project would place 589 residential units (93 percent of the General Plan goal) on the site, but would have less medium high density housing. Both of these scenarios would implement development on approximately 41 acres, as

well as including the open space preserve of approximately 13.5 acres. The proposed project would be incrementally more responsive to item 5 as the open space set aside would be slightly preferred over the alternative design for reasons described under Biological Resources, above. Overall, the differences in objectives attainment are considered less than substantial, with the two development scenarios considered similar when the incremental variation in pros and cons of the two plans are weighed against each other.

2.6.3. Reduced Project Alternative

Under the Reduced Project Alternative, development would be scaled back in the central and southern portions of the Gateway Station West site, with an overall development area of approximately 28.5 acres versus approximately 41 acres for the proposed project. This alternative would include a total of 471 residential units, compared to 589 units under the proposed project. The candidate regional trail identified for the proposed project, and sited along the residential development's westerly boundaries also would be implemented as part of this alternative, although the exact footprint would vary slightly as the development footprint is somewhat smaller than the proposed project.

Implementation of the Reduced Project Alternative would be anticipated to result in generally incremental reductions of impacts related to air quality, biological resources, cultural resources and both direct and cumulative noise and transportation/traffic, with impacts to geology and soils, hazards and hazardous materials, and hydrology/water quality expected to be similar to those described for the proposed project. All CEQA levels of impact would remain the same except for the one intersection at Willow Street/Thornton Avenue under Existing Plus Project conditions. Excluding the focused hazardous materials and transportation/traffic issues, which would remain significant and unmitigable for both the proposed project and alternative, all impacts would be mitigated to less than significant levels for both the alternative and proposed project.

Relative to compliance with proposed project objectives, both the proposed project and the Reduced Project Alternative would be responsive to most proposed project objectives. Both projects generally would: (1) provide on-site residential development consistent with the densities identified in the Dumbarton TOD Specific Plan and the City General Plan Land Use Element, including housing needs identified during the period of 2015 to 2023 in the 2015 Housing Element Update; (2) provide a mix of housing opportunities from single-family to multi-family housing to meet the City's housing needs; (3) create a compact, walkable community with access to employment opportunities; (4) provide residential units within walking distance of the future, planned transit station to generate the ridership necessary to support the station in keeping with the Dumbarton TOD Specific Plan; (5) permanently preserve and/or restore sensitive biological resources (including wetlands) in the southwestern portion of the Gateway Station West project site; (6) set aside land for open space preservation and recreation opportunities, including the candidate trail proposed for San Francisco Bay Trail status; and (7) develop a focused new community with a distinct identity, architectural style and sense of place while being compatible with existing and planned neighborhoods.

The proposed project would be more responsive to housing items 1, 2 and 4 as it would provide approximately 20 percent more homes than the alternative, which would more closely adhere to

the Dumbarton TOD Specific Plan and updated Housing Element densities and mix for the parcel, as well as the related Dumbarton TOD Specific Plan goal of development of predominantly vacant land for its highest and best use. The proposed project would place 589 residential units (93 percent of the General Plan goal) on the site, but would have less medium high density housing. While both development scenarios would contain open space area, the Reduced Project Alternative would provide an additional 12.5 acres (or 30 percent) more than the proposed project. The Reduced Project Alternative also would be more responsive to item 5 as the larger open space set aside would be preferred over the smaller amount of open space associated with the proposed project. Overall, the differences in objectives attainment are considered less than substantial, with the two development scenarios being considered generally similar when the incremental variation in pros and cons of the two plans are weighed against each other.

2.6.4. Wetland Avoidance Alternative

Under the Wetland Avoidance Alternative, development would be limited to the northeastern and southeastern portions of the site, with an overall development area of approximately 10.4 acres versus approximately 41 for the proposed project. This alternative would include a total of 181 residential units compared to 589 for the proposed project (refer to Figures 3-5, S*ite Plan,* and 6-2, *Wetland Avoidance Alternative*). A candidate trail connection would be provided. For this alternative the proposed trail alignment would trend along the parcel eastern boundary (along Hickory Street), which would also keep it from bisecting the large open space set aside associated with this alternative. The trail would continue to a point north of the Gateway Station West parcel's northeastern boundary to intersect with the current planned trail alignment as shown on Figure 3-4 of the Dumbarton TOD Specific Plan EIR Land Use Map.

Implementation of the Wetland Avoidance Alternative would be anticipated to result in a substantial reduction of impacts to air quality, biological resources, cultural resources, noise and transportation/traffic relative to the proposed project (although impacts would remain significant). Proposed project impacts to jurisdictional waters would be eliminated under this alternative. Potential impacts to geology and soils, and hydrology/water quality under this alternative are expected to be similar to those described for the proposed project, and also would remain significant. The alternative would be slightly less preferred than the proposed project for the issue of hazards and hazardous materials due to the lower level of remediation associated with the smaller development footprint. Excluding the focused hazardous materials and transportation/traffic issues, which would remain significant and unmitigable for both the proposed project and alternative, all impacts would be mitigated to less than significant levels for both the alternative and proposed project.

The Wetland Avoidance Alternative would provide a total of 181 residential units in support of the residential/development objectives specified in the Specific Plan and for the proposed project. It would be substantially less responsive to each of the following goals, however, as it would only provide approximately 25 percent of the housing provided by the proposed project: (1) provide on-site residential development consistent with the densities identified in the Dumbarton TOD Specific Plan and the City General Plan Land Use Element, including housing needs identified for the period of 2015 to 2023 in the 2015 Housing Element Update; (2) provide a mix of housing opportunities from single-family to multi-family housing to meet the City's

housing needs; (3) create a compact, walkable community with access to employment opportunities; and (4) provide residential units within walking distance of the future, planned transit station to generate the ridership necessary to support the station in keeping with the Dumbarton TOD Specific Plan. Based on the increased amount of open space, it would be substantially more responsive to the following two goals: (5) permanently preserve and/or restore sensitive biological resources (including wetlands) in the southwestern portion of the Gateway Station West project site; (6) set aside land for open space preservation and recreation opportunities, including the candidate trail proposed for San Francisco Bay Trail status. It would be expected to be equally responsive to the following objective: (7) develop a focused new community with a distinct identity, architectural style and sense of place while being compatible with existing and planned neighborhoods. Overall, the Wetland Avoidance alternative would be preferred over the proposed project for environmental reasons and would be less preferred than the proposed project in terms of meeting objectives.

2.6.5. Comparison of Proposed Project Alternatives

The No Project/No Build Alternative would avoid all impacts identified for the proposed project, including air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology/water quality, noise, and transportation and traffic (including off-site roadway segment and intersection impacts identified in the Specific Plan analysis and also applicable to the proposed project). With respect to hazards and hazardous materials, however, this alternative would also reduce the likelihood that existing on-site contamination would be fully remediated, as required for the proposed project. Because beneficial effects of development implementation relative to remediation of on-site contamination would not occur, and because project objectives would not be obtained, the No Project/No Build alternative would be less preferred than the proposed project.

As noted above for the Existing Specific Plan Alternative, the incremental variation between the alternative and the proposed project is not considered substantial when the objectives and impacts are weighed against each other. The "footprint effects" of the Existing Specific Plan Alternative associated with incrementally increased contributions to significant and unavoidable transportation/traffic impacts, a potential new significant and potentially unavoidable operational impact relative to air quality (oxides of nitrogen [NO_X]) that would not occur with the proposed project, and a slightly increased impact to biological resources associated with an improved trail surrounding the open space/preserve area; however, result in the proposed project being slightly preferred over the Existing Specific Plan Alternative.

Similarly, the differences in the environmental impacts between the proposed project and the Reduced Project Alternative development scenarios related to air quality, biology, cultural resources, noise and transportation/traffic, compared with the generally similar attainment in objectives (excluding only the precise number of homes proposed and "highest and best" use of a generally vacant parcel), result in the Reduced Project Alternative being slightly preferred over the proposed project.

Although impacts would remain significant for the issues of biology, cultural resources, and transportation/traffic, the Wetland Avoidance Alternative would substantially reduce impacts to biological resources due to the avoidance of wetland habitats (as well as associated federal/state

jurisdictional areas), as well as elimination of a number of significant traffic impacts to specific intersections (and improvements in Levels of Service [LOS] over the proposed project and other alternatives overall). The Wetland Avoidance Alternative also would result in reductions in duration of significant construction-period air quality impacts, as well as likely elimination of a substantial contribution to an off-site cumulative noise impact. The reduction in alternative footprint would not greatly minimize hazards and hazardous materials effects identified for the proposed project and would result in a substantially increased area which would not receive any alternative-related clean up. The Wetland Avoidance alternative would be preferred over the proposed project for environmental reasons and would be less preferred than the proposed project in terms of meeting objectives.

2.6.6. Environmentally Superior Alternative

The No Project/No Build Alternative would be the environmentally superior alternative. Pursuant to Section 15126(e)(2) of the State CEQA Guidelines, "…if the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." Accordingly, the Wetland Avoidance Alternative is identified as the environmentally superior alternative. This conclusion is based on the fact that this alternative would substantially reduce identified significant impacts to biological resources compared to the proposed project and Reduced Development Alternative, by avoiding all impacts to wetlands/jurisdictional areas and significant native upland habitat. It also would eliminate nine significant project-related traffic impacts to intersections/state route on-ramps and would generally lower alternative-related contributions to intersections that remain significantly impacted under cumulative conditions.

Table S-1
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND UNAVOIDABLE IMPACTS				
Hazardous Materials, Direct Impact	Based on established regulatory requirements and industry standards designed to avoid or minimize such releases, a low probability exists for worst-case releases of boron trichloride, nitrogen dioxide, and/or chlorine from existing facilities.	There are no feasible project-specific mitigation measures beyond established regulatory requirements and industry standards designed to avoid or minimize such releases. These regulatory requirements and industry standards are already in place and no mitigation measure would affect their efficacy.	A very low probability impact related to worst-case remains significant	While not identified in the Dumbarton TOD SP EIR, this impact was identified in the adjacent Trumark EIR.
Transportation and Traffic, Direct Impacts	Project traffic added to existing conditions would cause one intersection LOS to degrade to unacceptable during the p.m. peak hour and exacerbate operations by increasing the average delay by four or more seconds during the a.m. peak hour. Although project street design would accommodate transit services such as bus stops, shelters, and planned sidewalks to access future	**MM 4.14-1:** The intersection of Cedar Boulevard/Thornton Avenue shall have an additional westbound left turn lane on Thornton Avenue to accommodate the high left turn demand. **MM 4.14-2:** The City shall coordinate with AC Transit to improve bus service to the Specific Plan area to lessen the impact of vehicular traffic on the local and regional roadways. Potential transit accommodations may include: • Implementation of shuttle service to the Ardenwood Park and Ride lot to provide a connection to the Dumbarton Express bus line and the Fremont and/or Union City BART stations	Limited available ROW along Thornton Avenue and potential secondary impacts (e.g., increased pedestrian crossing distances), render MM 4.14-1 infeasible. Intersection impacts remain significant. As funding for the Dumbarton Rail Corridor Project is not yet secured and improved bus service by another jurisdiction (ACT) cannot be guaranteed	Both of these direct impacts were identified as significant and unmitigated in the Dumbarton TOD SP EIR for the reasons cited under Conclusion and Mitigation Effectiveness.

Table S-1 (cont.)
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND UNAVOIDABLE IMPACTS (cont.)				
	facilities; significant impacts are identified related to an increased demand for public transit lines and need for action by the Alameda County Transit (ACT).	• Rerouting bus lines 251 and/or 275 through the Specific Plan area to provide convenient stop(s) with bus shelters and benches • Addition of a new bus line to serve the Specific Plan area	by the City, this impact remains significant.[1]	
Transportation and Traffic, Cumulative Impacts	The project would have considerable unavoidable contributions to cumulative impacts at a number of intersections under future Year 2035 conditions	**MM 4.14-6** • *State Route (SR) 84 Eastbound Ramps/Thornton Avenue:* An additional eastbound right turn lane on the SR 84 Eastbound off-Ramp at the intersection of SR 84 Eastbound Ramps/Thornton Avenue shall be provided. • *Cherry Street/Thornton Avenue:* The intersection of Cherry Street/Thornton Avenue shall have an additional eastbound right turn lane on Thornton Avenue. • *Newark Boulevard/Thornton Avenue:* The intersection of Newark Boulevard/Thornton Avenue shall have an additional northbound left turn lane on Newark Boulevard to accommodate the heavy left turn movement. • *Cedar Boulevard/Thornton Avenue*: Mitigation for cumulative impacts was proposed through implementation of the mitigation required for direct impacts at this intersection, as described in MM 4.14-1, above.	Mitigation measures proposed for five intersections would not be feasible because the intersections are outside the City's jurisdiction, or because limited ROW is available at the intersection to allow for roadway improvements. Project contributions to the cumulative condition would remain significant.	Cumulative impacts were identified as significant and unmitigated for these five intersections in the Dumbarton TOD SP EIR for the reasons cited under Conclusion and Mitigation Effectiveness.

[1] The City General Plan allows LOS that would otherwise be considered unacceptable where projects are part of the City's regional effort to reduce vehicle trips and greenhouse gas emission, support transit and enhance the quality of life in the region, as is the case with the proposed project.

Table S-1 (cont.)
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND AVOIDABLE IMPACTS (cont.)				
Transportation and Traffic, Cumulative Impacts (cont.)	Adding project traffic to future year 2035 conditions would degrade operations on five roadway segments: Interstate (I-) 880, from SR 84 Eastbound to Thornton Avenue; I-880, from Mowry Avenue to Stevenson Boulevard; Thornton Avenue, from Willow Street to Spruce Street; Thornton Avenue, from Spruce Street to Cherry Street; and, Thornton Avenue, from Cedar Boulevard to I-880 Southbound Ramps.	• *Cherry Street/Central Avenue:* The intersection of Cherry Street/Central Avenue shall have an additional eastbound right turn lane on Central Avenue. **MM 4.14-8** Prior to issuance of building permits for a Specific Plan use, the applicant shall pay all applicable transportation-related fees in accordance with the latest adopted fee schedule at the time permits are sought. Such fees shall include, but not be limited to, the City of Newark Capital Facilities Fee for Transportation, and the Alameda County Transportation Commission (ACTC) Regional Transportation Impact Fee. Payment of these fees would partially mitigate the impacts of the Specific Plan.	Mitigation measures to reduce impacts to roadway segments would not be feasible because: the segment is outside the City's jurisdiction, limited ROW is available to allow for improvements such as lane addition or widening; and/or the fee programs would not fully fund all mitigation necessary. Project contributions to the cumulative conditions for these five roadway segments remain significant.	Cumulative impacts were identified as significant and unmitigated for these roadway segments in the Dumbarton TOD SP EIR due to issues associated with lack of jurisdiction and/or limited ROW to allow full mitigation measures implementation.

Table S-1 (cont.)
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND UNAVOIDABLE IMPACTS (cont.)				
Air Quality, Direct Impact	A "good neighbor" measure is provided for dust issues. Construction-period project emissions would exceed the BAAQMD's significance threshold for NO_X.	**MM 4.2-1a:** Prior to issuance of any Grading Permit, the Public Works Director and the Building Official shall confirm that the Grading Plan, Building Plans, and specifications stipulate that, in compliance with the Bay Area Air Quality Management District (BAAQMD) CEQA Air Quality Guidelines, the following basic construction mitigation measure shall be implemented for all construction projects: • A publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints shall be posted. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations. **MM Air-1: Tier 4 Off-road Construction Equipment.** Prior to issuance of any Grading Permit, the Public Works Director and the Building Official shall confirm that the Grading Plan, Building Plans, and specifications stipulate that all diesel-powered off-road equipment used during the grading phase shall meet Tier 4 final off-road emissions standards. A copy of each unit's certified Tier specification shall be provided to the City's Building Department at the time of mobilization of each applicable unit of equipment.	Combination of these mitigation measures results in less than significant impacts	**Project Specific mitigation measure excerpted from SP EIR** **New Project Specific mitigation measure**
Biological Resources, Direct Impact	Special-status plants currently not present may move into the project area prior to construction if construction does not commence prior to spring 2017.	**MM BIO-1:** If development of the site does not commence prior to the end of summer 2017, rare plant surveys should be re-conducted to verify presence/absence of special-status plant species. If special-status plants are found in the project site and/or off-site improvement areas, project development plans shall consider avoidance	Implementation of MM Bio-1 would result in less than significant impacts to special-status plants.	**Project Specific mitigation measure based on Dumbarton TOD SP EIR mitigation measure**

Table S-1 (cont.)
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND UNAVOIDABLE IMPACTS (cont.)				
Biological Resources, Direct Impact (cont.)		to the extent practicable. If avoidance is not practicable while otherwise obtaining the project's objectives, then other suitable measures and mitigation shall be implemented as detailed below. A mitigation compliance report shall be submitted to the City planning staff or staff biologist at least 30 days prior to ground disturbance. The compliance report shall detail the avoidance and other mitigation measures that have been implemented by the project. The City may approve grading/site disturbance in a quicker timeframe than 30 days if compliance with the mitigation measures can be verified by the City sooner than 30 days. The following measures shall be implemented if special-status plants are found in the project area during subsequent survey(s) prior to site disturbance: • Initially the feasibility of avoidance shall be evaluated as noted above. • If avoidance is not feasible, a mitigation plan shall be developed in consultation with CDFW personnel if it is a state listed (i.e., protected pursuant to the California Endangered Species Act [CESA]) or a California Native Plant Society [CNPS] List 1B or List 2 plant. If the plant is state listed, an incidental take permit (i.e., a 2081 Agreement) shall be acquired for the project from CDFW prior to any grading within the project area. A copy of the permit shall be provided to the appropriate department within the City prior to any grading within the project area. Any conditions for the project established by CDFW in the 2081 Agreement shall become conditions of the project also enforceable by the City. • If the plant is federally listed (i.e., protected pursuant to Federal Endangered Species Act [FESA]), the project sponsor shall formally notify the USFWS within five days of the finding and this agency's		

Table S-1 (cont.)
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND UNAVOIDABLE IMPACTS (cont.)				
Biological Resources, Direct Impact (cont.)		permitting instructions shall be incorporated into the project conditions of approval. As required in practice by the USFWS, an "incidental take" permit may be necessary from the USFWS for any proposed impacts on any federally listed plants found within the project site. A copy of this permit or a letter from the USFWS that otherwise states this agency is satisfied with the avoidance and/or mitigation measures shall also be provided to the appropriate department at the City prior to the time the project site can be graded. • If a plant is found on the project site that is a CNPS List 1B or 2 species, and the species is not otherwise protected pursuant to state or federal regulations, prior to construction within the project area, a qualified botanist shall collect the seeds, propagules, and top soils, or other part of the plant that would ensure successful replanting of the population elsewhere. The seeds, propagules, or other plantable portion of all plants shall be collected at the appropriate time of the year. Half of the seeds and top soils collected shall be appropriately stored in long-term storage at a botanic garden or museum (for example, Rancho Santa Ana Botanic Garden). The other half of the seeds, propagules, or other plantable portion of all plants shall be planted at the appropriate time of year (late-fall months) in an area of the subject property or off-site, protected property that will not be impacted by the project (if the project has a designated off-site mitigation site for impacts on other special-status species, the plants can be seeded on the mitigation site). This area shall be fenced with permanent fencing (for example, chain link fencing) to ensure protection of the species. The applicant shall hire a qualified biologist to conduct annual monitoring surveys of the transplanted plant population for a five-year period and shall prepare annual monitoring reports reporting the success or failure of the transplanting effort. These reports shall be submitted to the City and		

Table S-1 (cont.)
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND UNAVOIDABLE IMPACTS (cont.)				
Biological Resources, Direct Impact (cont.)		appropriate resource agency (CDFW and/or USFWS) no later than December 1st of each monitoring year. • If the seeding/transplanting effort fails, the stored seeds and top soils can be taken out of long-term storage and sown in another location (either on site or off site) deemed suitable by CDFW. This seeding effort shall then be monitored for an additional three-year period to ensure survivorship of the new population. Annual monitoring reports shall be submitted to the City for the three-year period. • A California Natural Diversity Database (CNDDB) form shall be filled out and submitted to CDFW for any special-status plant species identified within the project site. Any mitigation plan developed in consultation with CDFW shall be implemented prior to the initiation of grading or issuance of a development permit. • In lieu of the above-prescribed mitigation, as allowed in writing by the City (for CEQA protected species only) and/or CDFW (for CEQA and/or state listed species), mitigation requirements may be satisfied via the purchase of qualified mitigation credits or the preservation of off-site habitat. If the species in question is federally listed, then USFWS would also have to agree in writing, typically through issuance of a Biological Opinion, that the purchase of qualified mitigation credits or the preservation of off-site habitat would constitute satisfactory mitigation.		
	There is potential for western burrowing owl to be present on site. If present, there is potential for significant impacts.	**MM BIO-2:** Pre-construction surveys for western burrowing owl shall be conducted in accordance with the CDFW 2012 protocol by a qualified biologist prior to ground disturbance (including grading, clearing and grubbing, brush removal, or any other ground disturbance) as described below to ensure there are no impacts on burrowing owls as a result of the proposed project.	Implementation of MM Bio-2 would result in less than significant impacts to burrowing owls.	**Project Specific mitigation measure based on Dumbarton TOD SP EIR mitigation measure**

Table S-1 (cont.)
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND UNAVOIDABLE IMPACTS (cont.)				
Biological Resources, Direct Impact (cont.)		• The initial survey shall be conducted in the 30-day period prior to ground disturbance associated with the project, but no less than 14 days prior to the initiation of ground disturbance. Western burrowing owl surveys shall be conducted from two hours before sunset to one hour after, or one hour before to two hours after sunrise. All burrowing owl sightings, occupied burrows, and burrows with owl sign (e.g., pellets, excrement, and molt feathers) shall be counted and mapped. Surveys shall be conducted by walking all suitable habitat on the entire project area and (where possible) in areas within 150 meters (approximately 500 feet) of the project impact zone. The 150-meter buffer zone is surveyed to identify burrows and owls outside of the project area which may be impacted by factors such as noise and vibration (heavy equipment) during project construction. Pedestrian survey transects shall be systematically spaced to allow 100 percent visual coverage of the ground surface. The distance between transect center lines shall be no more than 20 meters (approximately 100 feet) and shall be reduced to account for differences in terrain, vegetation density, and ground surface visibility. If no suitable burrowing owl habitat is present, no additional surveys will be required. If suitable burrows are determined to be present on the site, a qualified biologist will visit the site an additional three times to investigate whether owls are present where they could be affected by the proposed activities. The final survey shall be conducted within the 24-hour period prior to the initiation of construction. o If burrowing owl is present during the non-breeding season (generally September 1 through January 31), a buffer of 50 meters (approximately 160 feet) shall be maintained around the occupied burrow(s), if practicable. If maintaining such a buffer is not feasible, then the buffer must be great enough to avoid injury		

Table S-1 (cont.)
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND UNAVOIDABLE IMPACTS (cont.)				
Biological Resources, Direct Impact (cont.)		or mortality of individual owls, or the owls shall be passively relocated in coordination with CDFW. If burrowing owl is detected on the site during the breeding season (peak of the breeding season is April 15 through July 15), and appear to be engaged in nesting behavior, a fenced 250-foot buffer shall be required between the nest site(s) (i.e., the active burrow[s]) and any earth-moving activity or other disturbance in the project area. This 250-foot buffer could be decreased to 160 feet once it is determined by a qualified burrowing owl biologist that the young have fledged (that is, left the nest). Typically, the young fledge by August 31. This date may be earlier than August 31, or later, and would have to be determined by a qualified burrowing owl biologist. o If burrowing owl is found on the project site, a qualified biologist shall delineate the extent of burrowing owl habitat on the site and a Mitigation Plan shall be prepared in consultation with CDFW for review and approval by the City. The Mitigation Plan shall identify the mitigation site and any activities proposed to enhance the site, including the construction of artificial burrows and maintenance of California ground squirrel populations on the mitigation site. In addition, for each pair of burrowing owls found in the construction area, two artificial nesting burrows shall be created at the mitigation site. The Plan shall also include a description of monitoring and management methods proposed at the mitigation site. Monitoring and management of any lands identified for mitigation purposes shall be the responsibility of the applicant for at least five years. An annual report shall be prepared for submittal to CDFW and the City by December 31 of each monitoring year. Contingency measures for any anticipated problems shall be identified in the plan. Compensatory		

Table S-1 (cont.)
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND UNAVOIDABLE IMPACTS (cont.)				
Biological Resources, Direct Impact (cont.)	There is a potential for significant impacts to nesting northern harriers and other raptors on the project area or immediately adjacent properties.	mitigation shall consist of providing 6.5 acres of replacement habitat which shall be protected in perpetuity per pair of burrowing owls, or unpaired resident bird. Such a set-aside would offset permanent impacts on burrowing owl habitat. The protected lands shall be adjacent to occupied burrowing owl habitat if possible, and at a location selected in consultation with CDFW. Land identified to offset impacts on burrowing owls shall be protected in perpetuity by a suitable property instrument (e.g., a conservation easement or fee title acquisition). **MM BIO-3:** In order to avoid impacts to northern harrier or other nesting raptors, a nesting survey shall be conducted within the project site prior to commencing with earth-moving or construction work if this work would occur during the raptor nesting season (between February 1 and August 31). • The raptor nesting survey shall include examination of all trees on or within 300 feet of the entire project site, not just trees slated for removal, since ground vibrations and noise from earth-moving equipment can disturb nesting birds and potentially result in nest abandonment. Areas within 300 feet of the project site shall be surveyed on foot if accessible or from within the project site or publicly accessible areas by scanning the surrounding land with the aid of binoculars. Since northern harriers are ground nesting raptors, the nesting survey will include systematic walking transects of accessible, suitable nesting habitat within 300 feet of the project site. • If nesting raptors are identified during the surveys, orange construction fence shall be installed to establish a 300-foot radius around the nest unless a qualified biologist determines that a lesser distance will adequately protect the nest (refer to discussion below	Implementation of MM Bio-3 would result in less than significant impacts to northern harrier or other raptors.	**Project Specific Mitigation Measure based on Dumbarton TOD SP EIR mitigation measure**

Table S-1 (cont.)
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND UNAVOIDABLE IMPACTS (cont.)				
Biological Resources, Direct Impact (cont.)		for more detail). If the tree or nest is located off the project site, then the buffer shall be demarcated per the above where the buffer intersects the project site. • The size of the non-disturbance buffer may be altered if a qualified raptor biologist conducts behavioral observations and determines the nesting raptors are well acclimated to disturbance. If this occurs, the raptor biologist shall prescribe a modified buffer that allows sufficient room to prevent undue disturbance/harassment to nesting raptors. If the buffer is reduced, the qualified raptor biologist shall remain on site to monitor the raptors' behavior during heavy construction in order to ensure that the reduced buffer does not result in take of eggs or nestlings. • No construction or earth-moving activity shall occur within the established buffer until it is determined by a qualified raptor biologist that the young have fledged (that is, left the nest) and have attained sufficient flight skills to avoid project construction zones. This typically occurs by August 31. This date may be earlier or later, and shall be determined by a qualified raptor biologist. If a qualified biologist is not hired to monitor the nesting raptors then the full 300-foot buffer(s) shall be maintained in place from February 1 through the month of August. The buffer may be removed and work may proceed as otherwise planned within the buffer on September 1.		
	There is a potential for significant impacts to saltmarsh common yellowthroat and other nesting passerines and migratory birds utilizing	**MM BIO-4:** To avoid impacts on nesting passerines and other migratory birds, a nesting survey shall be conducted in the project site and areas within 100 feet of the site prior to commencing initial earth-moving or construction work if this work would occur during the passerine nesting season (between March 1 and September 1). Areas within 100 feet of the	Implementation of MM Bio-4 would result in less than significant impacts to nesting passerines and other migratory	**Project Specific Mitigation Measure based on Dumbarton TOD SP EIR**

Table S-1 (cont.)
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND UNAVOIDABLE IMPACTS (cont.)				
Biological Resources, Direct Impact (cont.)	the project area or immediately adjacent properties.	project site shall be surveyed on foot if accessible or from within the project site or publicly accessible areas by scanning the surrounding land with the aid of binoculars. • The nesting surveys shall be completed approximately 15 days prior to commencing work. If special-status birds are identified nesting on or near the project site, a 100-foot radius around all identified active nests shall be demarcated with orange construction fencing to establish a non-disturbance buffer. If an active nest is found off site, the intersecting portion of the buffer that is on site shall be fenced. No construction or earth-moving activity shall occur within this 100-foot staked buffer until it is determined by a qualified biologist that the young have fledged (that is, left the nest) and have attained sufficient flight skills to avoid project construction zones. • If common (that is, not special-status) birds, for example, red-winged blackbird, are identified nesting on or adjacent to the project site, a non-disturbance buffer of 75 feet shall be established or as otherwise prescribed by a qualified biologist. The buffer shall be demarcated with orange construction fencing. Disturbance around an active nest shall be postponed until it is determined by the qualified biologist that the young have fledged and have attained sufficient flight skills to leave the area. • Typically, most birds in the region of the project site are expected to complete nesting by August 1. However, in the region many species can complete nesting by the end of June or in early to mid-July. Regardless, nesting buffers shall be maintained until August 1 unless a qualified biologist determines that the young have fledged and are independent of their nests at an earlier date. If buffers are removed prior to August 1, the biologist conducting the nesting surveys shall		**mitigation measure**

Table S-1 (cont.)
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND UNAVOIDABLE IMPACTS (cont.)				
Biological Resources, Direct Impact (cont.)		prepare a report that provides details about the nesting outcome and the removal of buffers. This report shall be submitted to the City project planner and CDFW prior to the time that buffers are removed if the date is before August 1. • Existing vegetation along the tops of the banks of the north/south drainage ditch through the open space area that provides potential nesting habitat for salt marsh common yellowthroat and other nesting passerines, as determined by a qualified biologist, shall be protected from removal during site remediation activities.		
	The project would affect jurisdictional waters (waters of the U.S./State) that would require permits and compensatory mitigation.	**MM BIO-5:** A verification of/concurrence with the 2015 wetland delineation must be obtained from the USACE prior to approval of the proposed project by the City. Authorization from the Corps and the RWQCB (for example, an Individual Permit and a 401 Water Quality Certification) shall be obtained as necessary/required by these agencies prior to filling any waters of the U.S./State on the project site or off-site improvement areas. • Impacts shall also be minimized by the use of Best Management Practices (BMPs) to protect preserved waters of the U.S./State and to ensure that water quality standards are not compromised in preserved wetlands and other waters within the watershed. These practices can include installing orange construction fencing buffers, straw waddles to keep fill from entering preserved/avoided wetlands and other waters, and other protective measures. During project construction, a biological monitor shall be on site to monitor the integrity of any	Implementation of MM Bio-5 would result in less than significant impacts to waters of the U.S./State.	**Project Specific Mitigation Measure based on Dumbarton TOD SP EIR mitigation measure**

Table S-1 (cont.)
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND UNAVOIDABLE IMPACTS (cont.)				
Biological Resources, Direct Impact (cont.)		preserved wetlands and other waters during mass grading or filling of the project site or off-site improvement areas. • For those wetland areas that are not avoided by project construction, compensatory mitigation shall be provided. As approved by the USACE, the project applicant may purchase mitigation credits from an approved mitigation bank or an approved in-lieu fee mitigation entity at a minimum 1:1 ratio. • As an alternative to the purchase of credits in a mitigation bank, wetlands may be created on site and, if so, shall have an equal or higher functional value than those wetlands affected by the project (known as in-kind replacement). If wetlands cannot be created in-kind and on site, other alternatives shall include off-site and/or out-of-kind mitigation. In any case, mitigation requirements for wetland areas that are not avoided shall be that all impacted wetlands are replaced at a minimum 1:1 ratio (for each square foot of impact, one square foot of wetland would be restored/created) or at a ratio determined by the USACE at the time permits are issued. Mitigation requirements will be based upon the existing conditions of the wetlands impacted. Where practicable, wetland plant/animal populations shall be relocated prior to disturbance from the impacted wetlands to any re-created wetlands. Topsoils shall also be removed from impacted wetlands if practicable, and placed into any re-created wetlands. These topsoils would contain a seed bank of the impacted plant species which would germinate with fall/winter hydration of the re-created wetlands. • If wetlands are restored/created, adequate compensation shall include creating wetlands at a suitable location that meet the following performance standards:		

Table S-1 (cont.)
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND UNAVOIDABLE IMPACTS (cont.)				
Biological Resources, Direct Impact (cont.)		o The wetlands shall remain inundated or saturated for sufficient duration to support a predominance of hydrophytic vegetation. o The wetlands shall exhibit plant species richness comparable to affected wetlands. o The wetlands shall replace the lost wetlands at a minimum ratio of one acre created for each acre, or fraction thereof, permanently impacted. o The developer shall provide for the protection of the mitigation areas in perpetuity either through a permanent protection device such as a restrictive covenant or conservation easement. o The developer shall establish a five-year program to monitor the progress of any restored or created wetland mitigation, other than Mitigation Bank Credits, toward these standards. At the end of each monitoring year, an annual report shall be submitted to the City, the RWQCB, and the USACE. This report shall document the hydrological and vegetative condition of the mitigation wetlands, and shall recommend remedial measures as necessary to correct deficiencies. o The USACE and other regulatory agencies generally require that wetlands not impacted by the proposed project and any new wetlands created to mitigate project impacts be set aside in perpetuity, either through deed restrictions or conservation easements. See the avoidance and minimization measure regarding the open space area (MM BIO-9).		
	Potentially significant impacts may occur to habitats regulated by the CDFW pursuant to	**MM BIO-6:** A Streambed Alteration Agreement shall be obtained for impacts to habitats regulated by CDFW pursuant to Section 1600 *et seq.* of the	Implementation of MM Bio-6 would result in less than significant impacts to	**New Project Specific mitigation measure**

Table S-1 (cont.)
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND UNAVOIDABLE IMPACTS (cont.)				
Biological Resources, Direct Impact (cont.)	Section 1600 *et seq.* of the California Fish and Game Code.	California Fish and Game Code. Measures required by the Streambed Alteration Agreement shall be implemented as a condition of project approval and prior to ground disturbance affecting the drainage ditches and associated vegetation regulated by CDFW. A "no net loss" of bed, banks, and channels of the regulated waterways permanently lost as a result of the project shall be achieved with this mitigation measure.	habitats regulated by the CDFW pursuant to Section 1600 *et seq.* of the California FGC.	
	Potentially significant impacts could occur if trees protected by City ordinance are removed.	**MM BIO-7** A tree permit shall be obtained from the City prior to the removal of any tree protected by City ordinance on the project site or Hickory Street ROW. • To offset impacts resulting from the removal of protected trees, replacement trees shall be planted in designated open space areas on the project site. Tree replacement shall be at a 1:1 ratio (that is, for each tree removed, one tree shall be planted as a replacement). Replacement trees shall be native California species that are native to the Newark area. A Tree Management Plan shall be prepared for the proposed project if tree removal occurs. Preparation of this plan and subsequent planting and monitoring shall be a condition of project approval and shall be tied to a security bond or cash deposit posted by the developer with the City to pay for any remedial work that might need to occur, if the prior effort fails. • All planted trees shall be provided with a buried irrigation system that shall be maintained over a minimum three-year establishment period. The irrigation system shall be placed on automatic electric or battery operated timers so that trees are automatically watered during the dry months of the establishment period. At the end of the 3-year establishment period, the irrigation system could be removed, if necessary. The planted trees' health shall be monitored annually for	Implementation of MM BIO-7 would result in less than significant impacts to trees protected by City ordinance.	**Project Specific mitigation measure excerpted from Dumbarton TOD SP EIR mitigation measure**

Table S-1 (cont.)
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND UNAVOIDABLE IMPACTS (cont.)				
Biological Resources, Direct Impact (cont.)	Based on a habitat assessment prepared by a qualified CDFW and USFWS permitted salt marsh harvest biologist, the project is not expected to impact the salt marsh harvest mouse. To bolster this finding, the applicant has installed exclusionary fencing along the southern and western project site boundaries and proposes to voluntarily implement protective measures for salt marsh harvest mouse	5 years by a qualified biologist or arborist. Annual monitoring reports shall be submitted to the City. • At the end of a five-year monitoring period, at least 80 percent of planted trees shall be in good health. If the numbers of planted trees falls below an 80 percent survival rate, additional trees shall be planted to bring the total number of planted trees up to 100 percent of the original number of trees planted. Irrigation and follow-up monitoring shall be established over an additional three-year period after any replanting occurs. Any replanting and follow-up monitoring shall be reported in annual reports prepared for the City, Community Development Department. A performance bond, letter of credit, or other financial instrument shall be established to pay for any remedial work that might need to occur, if the prior effort fails. **MM BIO-8** A qualified biologist (biological monitor) shall be on site in the culvert replacement site during pre-construction and culvert replacement activities. Vegetation required to be removed in the culvert replacement site shall be removed by hand, and the area to be cleared would be minimized to the extent possible. Removed vegetation shall be stockpiled in areas away from the work activities. Mouse-proof fencing shall be installed prior to culvert replacing activities, and maintained for the duration of construction. Prior to installing the salt marsh harvest mouse fence, all vegetation must be cleared from alongside the fence line route. The fencing shall be installed around the work area to prevent mice from entering the work area. The fencing shall be climb-proof (for example, smooth plastic, not	Impacts are not expected. Any unanticipated effects would be addressed through the additional voluntary actions identified in MM BIO-8.	**Project Specific Mitigation Measure based on Dumbarton TOD SP EIR mitigation measure**

Table S-1 (cont.)
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND UNAVOIDABLE IMPACTS (cont.)				
Biological Resources, Direct Impact (cont.)	during culvert replacement activities.	silt fencing), and installed in such a manner that the salt marsh harvest mouse cannot dig under the fence. The salt marsh harvest mouse is known to be an agile climber, but rarely digs extensively; regardless, fencing materials must account for both behaviors. The salt marsh harvest mouse fence shall be constructed using eight-millimeter plastic sheeting that is sandwiched between wooden stakes and buried in a minimum six-inch deep trench. The stakes shall screw together, firmly sandwiching the plastic in place. It is mandatory to sandwich the plastic between stakes if the fence is to last through even moderate winds. The finished installed fence shall be three feet above the ground. The plastic sheeting shall be smooth and non-climbable, and shall be buried and stapled to the ground at three-inch intervals to prevent rodents from digging under the fence. If construction activities occur for longer than three months from when the fence was installed, the fencing shall be replaced after three months. The integrity of the salt marsh harvest mouse fencing shall be inspected on a weekly basis by the biological monitor.		
	In order to adequately implement the on-site open space preserve area, a management plan must be developed to monitor the progress of the on-site wetland mitigation and associated biological values.	**MM BIO-9** The open space area shall be set aside in perpetuity, either through deed restrictions or conservation easements. Because the open space area contains waters under jurisdiction of the USACE and RWQCB, and potentially suitable habitat for species regulated by and CDFW, the plan shall be developed in coordination with these agencies. If a perpetual deed restriction is used to preserve the open space the land owner and any assignees/transferees of the title of the property shall assume liability for the perpetual management of the preserved lands. The deed restriction shall provide the allowed and prohibited uses of the preserved site, and these uses shall be approved by the agencies. If a conservation easement	Implementation of MM BIO-9 would result in less than significant impacts to the on-site wetlands and associated biological values.	**New Project Specific mitigation measure**

Table S-1 (cont.)
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND UNAVOIDABLE IMPACTS (cont.)				
Biological Resources, Direct Impact (cont.)		is established, a non-wasting management endowment (non-wasting infers that principal may not be used to pay for management actions, only interest on the principal sum may be used) shall be established in concert with the grantee of the conservation easement and shall be large enough to pay for necessary management actions. In lieu of a management endowment, other financial assurances may be provided that otherwise are found acceptable by the USACE. An example of an alternative funding source would be via a Geologic Hazards Assessment District (GHAD). Home Owners' Associations and Landscape Lighting Districts are not suitable funding entities as funds collected via these entities can be distributed City wide at the discretion of the City. In contrast, GHADs must be used within the taxing district where the funds are acquired. At least 60 days prior to commencement of ground disturbing activities (including site remediation activities), the applicant shall submit to CDFW, RWQCB, USACE for review and approval a management plan for the open space preserve area. The management plan will address the following issues: • Funding: The applicant shall provide to the agencies documentation that funds for monitoring and perpetual maintenance of the open space area is available through one of the previously described mechanisms. • Maintenance and Repair: The applicant shall provide for routine maintenance such as debris removal and inspection and repair of fences and access entries. The frequency of the maintenance activities shall be developed in coordination with the agencies. • No Vehicles: Except as needed for maintenance and repair, and access of existing easements on the property, or as necessary in		

Table S-1 (cont.)
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND UNAVOIDABLE IMPACTS (cont.)				
Biological Resources, Direct Impact (cont.)		emergency situations, non-motorized and motorized vehicles shall be prohibited from the open space area. • Inspection and Monitoring: The applicant shall establish a five–year program to monitor the progress of the wetland mitigation toward these standards. At the end of each monitoring year, an annual report shall be submitted to the City, the RWQCB, USACE, and CDFW. This report shall document the hydrological and vegetative condition of the wetlands, and shall recommend remedial measures as necessary to correct deficiencies. • Restricted Activities: The applicant shall identify activities prohibited from taking place in the open space area. These include, but are not limited to: (1) alteration of existing topography or other alteration or uses for any purpose; (2) placement of any new structures in the open space area; (3) dumping and/or burning of rubbish, garbage, or other waste or fill materials; (4) construction and/or placement of new infrastructure, other than those already identified in the project design, including new roads or trails, and storm water systems or utilities (outside of the existing easements); (5) use of pesticides or herbicides unless otherwise approved by the agencies. To minimize the potential for predation and harassment of wildlife using the open space area, solar salt ponds, and Plummer Creek Wetland Mitigation Bank from cats associated with the Gateway Station West development, the keeping of outside feline pets or feral cat stations shall be prohibited. Enforcement of the restriction shall be reflected in the Covenants, Conditions & Restrictions of the neighborhood. All occupants of the project site and potential occupants shall be notified of this restriction.		

Table S-1 (cont.)
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND UNAVOIDABLE IMPACTS (cont.)				
Cultural Resources, Direct Impact	Project implementation could result in potentially significant potential impacts to previously undiscovered human remains; and potentially significant unknown or unrecorded cultural resources	**MM 4.4-1a**. Prior to the issuance of grading permits for future development allowed within the Dumbarton TOD Specific Plan area, project sponsors shall retain qualified archaeologists meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeologist. The qualified archaeologists shall train the construction crew on the mechanisms used to identify cultural resources and to caution them on the legal and/or regulatory implications of knowingly destroying cultural resources or removing artifacts or human remains from the project sites. In accordance with State CEQA Guidelines Section 15064.5, should subsurface deposits believed to be cultural in origin be discovered during the construction of future development projects within the project site, then all work shall halt within a 200-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeologist, shall be retained at the project sponsor's expense to evaluate the significance of the find. Work shall not continue at the discovery site until the archaeologist conducts sufficient research and data collection to make a determination that the resource is either: (1) not cultural in origin; or (2) not potentially significant or eligible for listing on the National Register of Historic Places (NRHP) or the California Register of Historic Places (CRHP). If a potentially eligible resource is encountered, then the archaeologist, lead agency, and project sponsor shall arrange for either: (1) total avoidance of the resource, if possible; or (2) test excavations to evaluate eligibility and, if eligible, data recovery as mitigation. The determination shall be formally documented in writing and submitted to the lead agency and filed with the Northwest Information Center as verification that the provisions in this mitigation measure have been met.	Mitigation measure implementation would mitigate potential impacts to previously undiscovered human remains; and potentially significant unknown or unrecorded cultural resources to less than significant levels.	**Project Specific Mitigation Measure from Dumbarton TOD SP EIR mitigation measure**

Table S-1 (cont.)
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND UNAVOIDABLE IMPACTS (cont.)				
Cultural Resources, Direct Impact (cont.)		If human remains of any kind are found during construction activities, all activities shall cease immediately and the Alameda County Coroner shall be notified as required by State law (Section 7050.5 of the Health and Safety Code). If the coroner determines the remains to be of Native American origin, he or she shall notify the Native American Heritage Commission (NAHC). The NAHC shall then identify the most likely descendant(s) (MLD) to be consulted regarding treatment and/or reburial of the remains (Section 5097.98 of the Public Resources Code [PRC]). If an MLD cannot be identified, or the MLD fails to make a recommendation regarding the treatment of the remains within 48 hours after gaining access to the remains, the City shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance. Work can continue once the MLD's recommendations have been implemented or the remains have been reburied if no agreement can be reached with the MLD (Section 5097.98 of the PRC).		
Geology and Soils, Direct Impacts	Potentially significant geologic hazards associated with seismic ground shaking, liquefaction and related effects, manufactured slope instability, geologic/soil instability, shallow bedrock groundwater, and expansive soils may be associated with the project site.	**MM GEO-1:** A site-specific geotechnical investigation shall be conducted by a qualified engineer or engineering geologist to verify that final project plans and/or construction operations incorporate applicable regulatory/industry requirements (e.g., International Building Code [IBC]/California Building Code [CBC] and City standards), recommendations contained within the project geotechnical investigations (BSA 2013, 2014), related plan review, and field observations/testing. Specifically, such verification shall encompass requirements and recommendations related to potenially significant impacts from seismic ground shaking, liquefaction and related effects, manufactured slope instability, geologic/soil instability (including corrosive soils, trench instability, and shallow bedrock/groundwater), and expansive soils. The results of the noted investigation shall be documented by the project engineer or engineering geologist and submitted to the City for review.	Mitigation measure implementation would result in less than significant impacts to geologic hazards associated with seismic ground shaking, liquefaction and related effects, manufactured slope instability, geologic/soil instability, and expansive soils.	**New Project Specific Mitigation Measure**

Table S-1 (cont.)
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND UNAVOIDABLE IMPACTS (cont.)				
Hazardous Materials, Direct Impacts	Proposed project site development could result in disturbance of soils or demolition of structures that could potentially release contaminants, as well as impacting existing groundwater monitoring wells (for an off-site remediation effort).	**MM 4.7-1b** Prior to grading permit issuance, areas to be graded shall be cleared of debris, significant vegetation, pre-existing abandoned utilities, buried structures, and asphalt concrete. **MM 4.7-1c** Prior to the import of a soil to a particular property within the Specific Plan area as part of that property's site development, such soils shall be sampled for toxic or hazardous materials exceeding applicable Environmental Screening Levels for the proposed land use at such a property as required by the Oversight Agency prior to importing to such a property. **MM 4.7-1d** Areas containing Naturally Occurring Asbestos (NOA) within the Dumbarton TOD Specific Plan area shall be confirmed prior to grading permit issuance. Prior to grading or construction of a particular property containing NOA, an application from theBAAQMD shall be required for projects over one-acre in size. Dust control and an NOA air monitoring program shall be required. Additionally, the following general construction practices shall be adhered to for those properties containing NOA: • The site shall be maintained in a wet condition to prevent airborne dust. On-site soil shall be wetted during grading and trenching operations. • Over excavation and removal of NOA material to one foot below utility is recommended for utility corridors.	Mitigation measure implementation would lower impacts associated with ground disturbance or structure demolition to less than significant levels.	**Project Specific mitigation measures from Dumbarton TOD SP EIR**

Table S-1 (cont.)
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND UNAVOIDABLE IMPACTS (cont.)				
Hazardous Materials, Direct Impacts (cont.)		**MM 4.7-1e** On those properties where NOA is known to occur, the following measures shall be used for guidance only. The specific requirements for each property shall be determined by the risks involved and appropriate mitigation measures required to protect human health. • Detached Single Family Residences – A minimum 3-foot soil cover in building pad areas, extending at least 5 feet beyond the building perimeter is recommended. Deed restrictions should be considered (such as not allowing swimming pools) if there is less than 10-feet of soil cover over the serpentinite with NOA. • Podium Type Multi-Unit Residential Structures – A minimum 2-foot-thick soil cover is recommended. • Pavement and Concrete Hardscape – If NOA material is covered to prevent airborne dust after construction, soil cover is not required. • Landscaped Areas – A minimum 2-foot thick soil cover in landscaped areas is recommended. **MM HZ-1** A qualified hazardous materials specialist shall review final project grading and development plans prior to approval to verify related conditions and assumptions in the project Phase I and Phase II Environmental Site Assessments (ESAs), or to identify modified and/or additional requirements. **MM HZ-2** After completion of final project grading and development plans, but prior to the issuance of grading or building permits for the proposed Gateway Station West project, a Hazardous Materials Remediation Plan (HMRP) shall be prepared by a qualified hazardous materials specialist		**New Project Specific mitigation measure** **New Project Specific mitigation measure**

Table S-1 (cont.)
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND UNAVOIDABLE IMPACTS (cont.)				
Hazardous Materials, Direct Impacts (cont.)		and submitted to the City and applicable Oversight Agencies (e.g., the RWQCB, Department of Toxic Substance Control [DTSC] and County Department of Environmental Health [DEH]) for review and approval. The HMRP shall address remediation requirements (as applicable) for all potential hazardous material impacts identified in the project Phase I and Phase II ESAs, as well as other pertinent sources, based on review of final project grading and development plans. Specifically, remediation requirements in the HMRP shall include the following: • REC No. 1 – Former Magnesia Site. If the project grading plans identify deeper excavations (e.g., underground utilities) in applicable portions of the REC No. 1 area, associated soils exhibiting the following characteristics shall be removed and properly disposed of at an approved off-site location: (1) arsenic concentrations above the identified background level (11 mg/kg); (2) cobalt concentrations above the identified screening level (23 mg/kg); and (3) pH levels above 8.5. • REC No. 2 – Impacted Groundwater. Pursuant to coordination with and direction by the RWQCB, vapor intrusion engineering controls (e.g., seals or barriers) shall be implemented in applicable locations to address potential volatile organic compounds (VOC) vapor intrusion impacts from shallow groundwater. • REC No. 4 – Former NSC Area. Soils within the proposed development area exhibiting the following characteristics shall be removed and properly disposed of at an approved off-site location: (1) arsenic concentrations above the identified background level (11 mg/kg); (2) lead concentrations above the identified screening level (80 mg/kg); and (3) polycyclic aromatic hydrocarbons (PAH) compounds with concentrations above the identified screening levels		

Table S-1 (cont.)
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND UNAVOIDABLE IMPACTS (cont.)				
Hazardous Materials, Direct Impacts (cont.)		(as identified for individual compounds in the Phase II ESA, H&A 2014b). • REC No. 5 – Pistol Range. Soils exhibiting cobalt concentrations above the identified screening level (23 mg/kg) shall be removed and properly disposed of at an approved off-site location. • REC No. 6 – Naturally Occurring Asbestos. The HMRP analysis of REC No. 6 shall include requirements to: (1) implement Specific Plan EIR MM 4.7-1d, including dust control, air quality monitoring, and overexcavation for applicable utilities, as well as other pertinent measures identified in the HMRP (if applicable); and (2) review the NOA requirements identified in Specific Plan EIR MM 4.7-1e to determine if the associated requirements are applicable to the proposed project, or to identify other applicable measures to provide appropriate remediation of NOA in conformance with associated regulatory standards. • REC No. 7 – E-1 Drainage Ditch. Soils along the entire length of the E-1 Drainage Ditch that exhibit the following characteristics shall be removed and properly disposed of at an approved off-site location: (1) arsenic concentrations above the identified background level (11 mg/kg); (2) lead concentrations above the identified screening level (80 mg/kg); (3) PAH compounds with concentrations above the identified screening levels (as identified for individual compounds in the Phase II ESA, H&A 2014b); (4) Diesel (TPHd) and motor oil (TPHmo) with concentrations above the identified screening levels (110 mg/kg for TPHd, and 2,500 mg/kg for TPHmo); and (5) pH levels above 8.5. • REC No. 8 – E-1 Settling Ponds and Detention Basin. Soils exhibiting the following characteristics shall be removed and properly		

Table S-1 (cont.)
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND UNAVOIDABLE IMPACTS (cont.)				
Hazardous Materials, Direct Impacts (cont.)		disposed of at an approved off-site location: (1) cobalt concentrations at the detention basin above the identified screening level (23 mg/kg); (2) TPHd at the detention basin with concentrations above the identified screening level (110 mg/kg); and (3) pH levels above 8.5 at the settling ponds and detention basin. • <u>REC No. 9 – Historical Industrial Use</u>. Based on the extensive history of industrial activities within and adjacent to the project site, all applicable project-related grading and excavation activities (as identified in the HMRP) shall be monitored by a qualified hazardous materials specialist for the potential occurrence of currently unknown hazardous materials or other hazards. If such conditions are encountered, activities shall cease in the subject area until appropriate remediation efforts are identified by a qualified hazardous materials specialist, reviewed and approved by the appropriate regulatory agencies, and properly implemented. **MM HZ-3** All project grading, excavation and development activities in the vicinity of the four on-site groundwater monitoring wells (W-25 and B-26 through B-28, refer to SEIR Figure 4.7-1) shall conform with applicable related requirements in the ACWD Groundwater Protection Act (Ordinance No, 2010-01). Specifically, the project applicant (or a designated representative of the applicant) shall provide written verification to the City that all applicable requirements related to well protection, destruction and/or abandonment have been implemented to the satisfaction of the ACWD.		**New Project Specific mitigation measure**

Table S-1 (cont.)
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND UNAVOIDABLE IMPACTS (cont.)				
Hydrology and Water Quality, Direct Impacts	Project implementation may impact local groundwater resources related to the installation of subsurface measures to address identified liquefaction hazards (e.g., subdrains or piles, and efforts such as soil vibrocompaction, grouting and deep mixing). Potential project dewatering activities may result in disposal of waters that contain pollutants/contaminants.	**MM HYD-1** All project dewatering operations, subsurface activities related to on-site remediation of liquefaction hazards (e.g., the installation of subdrains or piles, and implementation of efforts such as soil vibrocompaction, grouting and deep mixing), and other pertinent activities, shall conform with applicable related requirements in the ACWD Groundwater Protection Act (Ordinance No, 2010-01). Specifically, the project applicant (or a designated representative of the applicant) shall provide written verification to the City that all applicable requirements related to dewatering operations and subsurface activities (as described) have been implemented to the satisfaction of the ACWD. **MM HYD-2** All project-related groundwater extraction disposal operations shall conform with applicable waste discharge requirements issued by the RWQCB for disposal of extracted groundwater (if such waste discharge requirements are issued by the RWQCB). Specifically, the project applicant (or a designated representative of the applicant) shall consult with the RWQCB prior to implementing on-site dewatering activities to determine if such waste discharge requirements are required, and shall provide written verification to the City that either: (1) no waste discharge requirements related to project dewatering are required by the RWQCB; or (2) all applicable requirements related to dewatering operations have been implemented to the satisfaction of the RWQCB.	Implementation of project design features and the cited mitigation measures would avoid or reduce hydrology and water quality impacts to less than significant.	**New Project Specific mitigation measure**

Table S-1 (cont.)
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND UNAVOIDABLE IMPACTS (cont.)				
Noise, Direct Impact	A good neighbor measure is incorporated.	**MM 4.10-1b** • Identify a procedure and phone numbers for notifying the City Building Inspection Division staff and Newark Police Department (during regular construction hours and off-hours); • Post a sign on site pertaining to the permitted construction days and hours and complaint procedures and who to notify in the event of a problem. The sign shall also include a listing of both the City and construction contractor's telephone numbers (during regular construction hours and off-hours); • Designate an on-site construction complaint and enforcement manager for the project. The manager shall act as a liaison between the project and its neighbors (including on-site residents). The manager's responsibilities and authority shall include the following: o An active role in monitoring project compliance with respect to noise; o Ability to reschedule noisy construction activities to reduce effects on surrounding noise sensitive receivers; o Site supervision of all potential sources of noise (e.g., material delivery, shouting, debris box pick-up and delivery) for all trades; and, o Intervening or discussing mitigation options with contractors. • Notify neighbors and occupants within 300 feet of the project construction area at least 30 days in advance of construction activities regarding the details and estimated duration of the activity; and, • Hold a preconstruction meeting with the job inspectors and the general contractor/on-site project manager to confirm that noise measures and practices (including construction hours, neighborhood notification, posted signs, etc.) are completed.	Mitigation measure implementation would provide appropriate contact information to members of the public potentially affected by construction activities.	**Project Specific Mitigation Measure from Dumbarton TOD SP EIR mitigation measure**

Table S-1 (cont.)
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND UNAVOIDABLE IMPACTS (cont.)				
Noise, Direct Impact (cont.)	Location of ground-mounted heating, ventilation and air conditioning (HVAC) equipment within 25 feet of adjacent residential property lines could result in a potentially significant direct impact.	**MM NOI-1** For residences located within 25 feet of ground-mounted HVAC equipment, attenuation of exterior HVAC noise to levels to 45 A-weighted decibels equivalent sound level ([dBA L_{EQ}] for usable outdoor space) shall be ensured prior to issuance of certificates of occupancy. For single-family attached or multi-family development, potential noise control measures to achieve the performance standard for outdoor usable space include, but are not limited to: noise control barriers around the HVAC units and/or the outdoor usable space, and/or installing roof-mounted units with a standard parapet wall.	Mitigation measure implementation would lower exterior HVAC noise impacts to less than significant levels.	**New Project Specific mitigation measure**
Noise, Cumulative Impacts	Existing speed limits would contribute to cumulative traffic noise impacts along Enterprise Drive.	**MM NOI-2** Prior to the issuance of building permits, the project applicant shall coordinate with the City's Public Works Director to change the posted speed limit along Enterprise Drive (between Hickory Street and Willow Street) to 25 mph. Implementation of this measure shall be indicated on all project plans and specifications. **MM NOI-3** Prior to the approval of building permits for residences located along Enterprise Drive between Hickory Street and Willow Street, a site-specific acoustic analysis shall be conducted to ensure exterior and interior sound levels are equal to or less than the applicable allowable limits (60 Community Noise Equivalent Level [CNEL] for single-family exterior, 65 CNEL for multi-family exterior, 45 CNEL for residential interior).	Mitigation measures implementation would lower project contributions to cumulative noise on Enterprise Drive residences between Hickory Street and Willow Street to less than considerable contributions/ less than significant impacts.	**New Project Specific mitigation measures**

Table S-1 (cont.)
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND UNAVOIDABLE IMPACTS (cont.)				
Transportation and Traffic, Direct Impacts	Project traffic added to existing conditions would cause intersection LOS at three locations to degrade to unacceptable LOS during the p.m. peak hour and exacerbate operations by increasing the average delay by four or more seconds during the a.m. peak hour.	**MM 4.14-1:** • *Willow Street/Thornton Avenue:* A right turn overlap phase to the northbound approach on Willow Street shall be provided. Additionally, a U-turn restriction for the westbound left turn movement on Thornton Avenue shall be posted. • *Willow Street/Enterprise Drive:* A roundabout shall be provided at this intersection. • *Cherry Street/Mowry Avenue:* Mitigation measures were identified at this intersection as part of the Area 3 and 4 EIR. The measures proposed included the addition of a second left-turn lane on the westbound approach, and resulting in realignment of the east and westbound approaches and modification to the traffic signal. These improvements are not sufficient to mitigate the project's impact; additional ROW to widen this approach may be needed. Therefore, additional mitigation was identified. o The westbound approach of the intersection of Cherry Street/Mowry Avenue shall be modified to include a right turn and a through-right turn lane. This improvement would require modification of the traffic signal and removal of the existing pork chop island.	Implementation of proposed intersection improvements would mitigate direct Project impact to less than significant levels.	**Project Specific mitigation measures from Dumbarton TOD SP EIR, as refined for Willow Street/ Enterprise Drive**
Transportation and Traffic, Cumulative Impacts	The project would have considerable contributions to cumulative impacts at a number of intersections under future Year 2035 conditions (please also see Significant and	**MM 4.14-6** • *Gateway Boulevard/Thornton Avenue:* The northbound right turn lane on Thornton Avenue at the intersection of Gateway Boulevard/Thornton Avenue shall be restriped to provide a shared through-right turn lane. The existing north leg has three receiving lanes to make this improvement feasible.	Mitigation measures implementation would lower cumulative impacts to the cited intersections to less than considerable	**Cumulative mitigation measures from Dumbarton TOD SP EIR**

Table S-1 (cont.)
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND UNAVOIDABLE IMPACTS (cont.)				
Transportation and Traffic, Cumulative Impacts (cont.)	Unavoidable Impacts, above for additional intersections where cumulative effects would not be mitigable).	• *Willow Street/Thornton Avenue:* Mitigation for cumulative impacts will be addressed through implementation of the mitigation required for direct impacts at this intersection, as described in MM 4.14-1. • *Willow Street/Enterprise Drive:* Mitigation for cumulative impacts will be addressed through implementation of the mitigation required for direct impacts at this intersection, as described in MM 4.14-1. While a single-lane roundabout would operate acceptably with the proposed traffic volumes, right-turn bypass lanes may be provided to/from the west leg to connect to the four-lane section of Enterprise Drive west of the intersection. • *Cherry Street/Mowry Avenue:* Mitigation for cumulative impacts will be addressed through implementation of the mitigation required for direct impacts at this intersection, as described in MM 4.14-1. • *I-880 NB Ramps/Mowry Avenue*: The intersection of I-880 NB Ramps/Mowry Avenue shall be restriped to include a left/right share lane, resulting in the northbound approach having a final lane configuration of a left-turn lane, a left and right shared lane, and dual right-turn lanes. o If restriping of the intersection is not achievable, an alternate mitigation shall be to revise the City's General Plan policy to permit LOS D operations at freeway ramp intersections with existing or proposed bicycle facilities. Currently, City General Plan Policy 3d states that the City should "Work with the State and City of Fremont to maintain LOS "C" at all intersections on the border of Newark, particularly Newark Boulevard/Dumbarton Freeway, Thornton Avenue/Dumbarton Freeway, Stevenson Boulevard/Interstate 880, Mowry Avenue/ I-880 and Thornton Avenue/I-880, to accommodate buildout of	contributions/ less than significant impacts.	

Table S-1 (cont.)
SUMMARY OF SIGNIFICANT EFFECTS

Impact Identification	Impact	Mitigation	Conclusion and Mitigation Effectiveness	Relation to Dumbarton TOD SP EIR
SIGNIFICANT AND UNAVOIDABLE IMPACTS (cont.)				
Transportation and Traffic, Cumulative Impacts (cont.)		lands in Fremont and Newark in the vicinity of the intersections." Additionally, General Plan Policy 2e supports completion of the Citywide Bicycle Master Plan, which may include new bicycle lanes on Mowry Avenue through the I-880 interchange. In order to recognize that automobile traffic operations should be balanced with bicycle access and pedestrian access across the interchange, General Plan Policy 3d may be amended in the following way to promote access for all travel modes: "Work with the State and City of Fremont to maintain LOS "C" at all intersections on the border of Newark, particularly Newark Boulevard/Dumbarton Freeway, Thornton Avenue/Dumbarton Freeway, Stevenson Boulevard/I-880, Mowry Avenue/I-880 and Thornton Avenue/I-880, to accommodate buildout of lands in Fremont and Newark in the vicinity of the intersections, except at intersections that are along the City's proposed Bikeway Network where automobile LOS D is permitted." Revision of the City's General Plan to permit LOS D at freeway interchange intersections along the proposed bicycle network would reduce this impact to less than significant.		

Section 3.0

PROJECT DESCRIPTION

3.0 PROJECT DESCRIPTION

3.1 PROJECT LOCATION

The project site is the Gateway Station West property, which is further described as Parcel 1 of Parcel Map 9837 and identified as the Cargill property in the Dumbarton TOD Specific Plan. Off-site improvements may take place within portions of the adjacent or nearby Hickory Street, Enterprise Drive and 'A' Avenue right-of-way (ROW) corridors, as well as at a drainage culvert near the southwestern corner of the property. The project site is situated within the Dumbarton TOD Specific Plan area at the western edge of the City of Newark (City) in southwestern Alameda County. The project site is located at the southwest corner of the intersection of Hickory Street and Enterprise Drive (formerly Wells Avenue), and is bounded by vacant industrial land on the north, Hickory Street on the east, the Plummer Creek Wetland Mitigation Bank on the south, and solar salt ponds on the west. Enterprise Drive terminates near the northeast corner of the property. Specifically, the site is located in Section 11 of Township 5 South and Range 2 West of the U.S. Geological Survey (USGS) 7.5-minute "Newark, California" quadrangle map. Refer to Figure 3-1, *Site and Vicinity Map*, for the project's location in the region, and Figure 3-2, *Dumbarton TOD Specific Plan Area*, for the project's location within the Dumbarton TOD Specific Plan area.

3.2 PROJECT SETTING

The project site is the approximately 54.5-acre Gateway Station West property. Off-site improvements may also take place within the following locations: (1) an approximately 1.6-acre area of the 80-foot wide Hickory Street ROW east of the project site and just off the northeastern corner of the site; (2) an approximately 2-acre area of the proposed 90-foot wide Enterprise Drive ROW extending between Hickory and Willow streets; (3) an approximately 0.4-acre area of the proposed 'A' Avenue corridor extending approximately 300 feet east of Hickory Street; and (4) an approximately 0.05-acre area adjacent to the southwestern site corner associated with the proposed replacement of an existing drainage culvert (Figure 3-3, *Aerial Map*; refer also to Section 3.4.8, *Off-site Improvements*, for additional information). The project site is generally located in a largely industrial area, with open space and existing and developing residential uses in the vicinity. The surrounding land uses are characterized by existing and former industrial parcels, with nearby business/professional centers and residential lots.

3.2.1 Surrounding Land Uses

The project site is bounded by properties within the Dumbarton TOD Specific Plan area to the north and east (refer to Figure 3-2). The vacant industrial land to the north is the former FMC Corporation facility which, under the Dumbarton TOD Specific Plan, would be developed with medium/high and high density residential, commercial/retail uses, and the future transit station. The existing Union Pacific Railroad corridor is north of the former FMC Corporation facility, and is the location of the Dumbarton Rail Corridor (DRC) Project. Hickory Street is a 12-foot wide unimproved public road within an 80-foot wide ROW located adjacent to the eastern project site boundary. Site development activities associated with the Dumbarton TOD Specific Plan are underway on the Torian property east of the project site (east of Hickory Street and south of Enterprise Drive). Vacant parcels north of the Torian property are the former Ashland

Chemical Company, and the former SHH and FMC Corporation properties. These properties are planned to be developed as medium/high density residential under the Specific Plan.

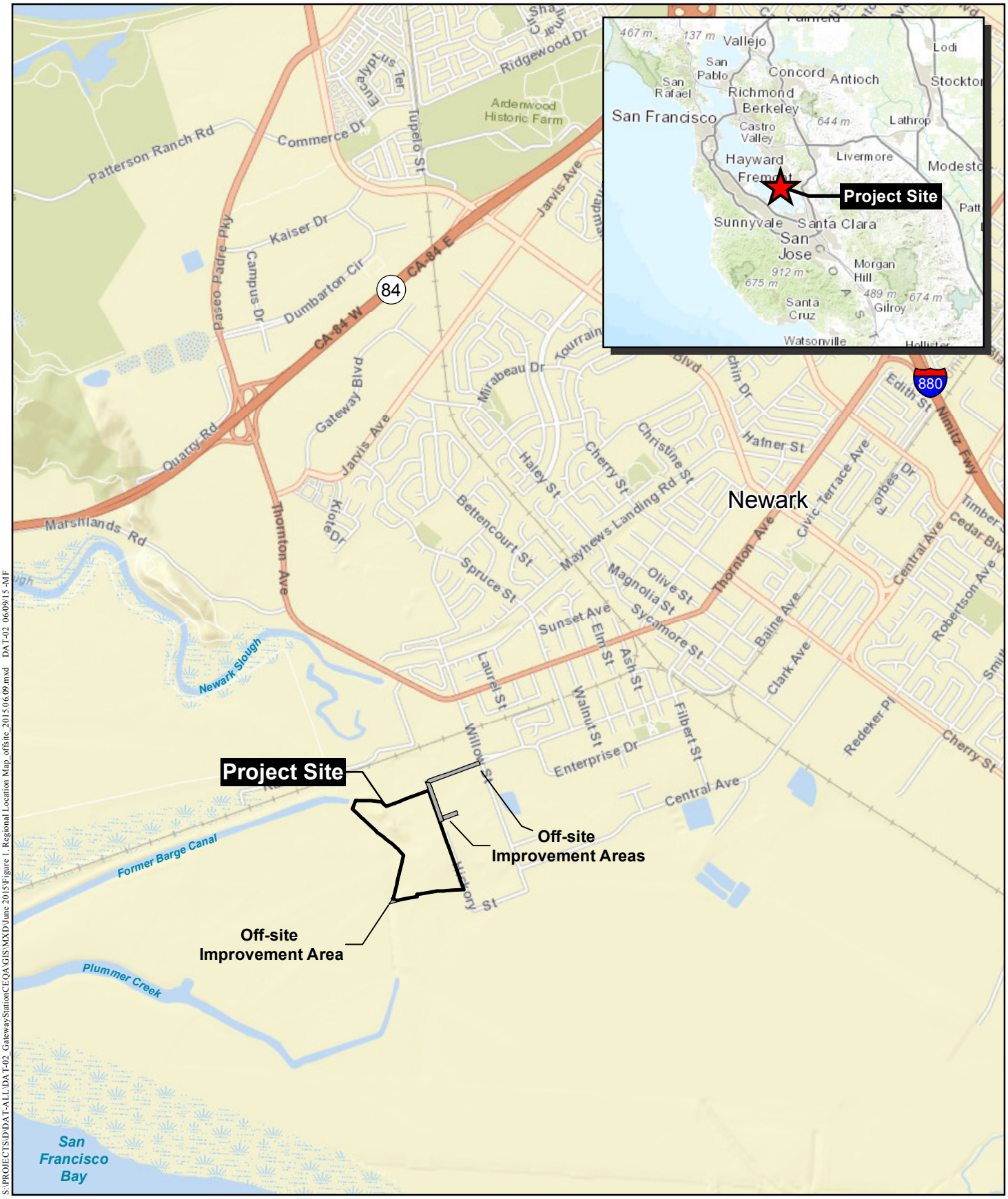
The Plummer Creek Wetland Mitigation Bank is a restored wetland located directly south of the project site. Approximately 12,000 acres of solar salt ponds are located immediately west of the project site and south of the Plummer Creek Wetland Mitigation Bank. Salt production at these facilities is the result of solar evaporation of sea water. Salt water is captured in shallow ponds and allowed to evaporate by means of the sun and wind. Specifically, there are two types of ponds used in this process: (1) concentrators (such as those adjacent to the project site), wherein salt water of increasing concentration is moved from pond to pond; and (2) crystallizers, where the concentrated brine is allowed to dry and precipitate salt crystals for harvesting. A typical solar "crop" takes from one to five years to develop; the salt is then harvested and transported to the salt refinery where it is washed, screened and packaged. Salt is harvested from the crystallizer ponds approximately 7 to 14 days per year using heavy trucks. Because the ponds in the immediate vicinity of the project site consist of concentrators, they are not used to dry and produce salt for harvesting, but rather are continuously filled with variable concentrations of brine (except during scheduled maintenance) used to supply the more distant crystallizer ponds, as noted above. An existing access road and staging area associated with the solar salt operations west of the project site follows the southern property boundary and partially overlaps the project site in the southwestern portion of the site. An additional access road, on property west of the project site, parallels the western project site boundary. Salt operations would continue after project implementation, and the access roads would continue to be used for annual salt harvesting. Surrounding land uses are summarized in Table 3-1, *Surrounding Land Uses.*

Table 3-1
SURROUNDING LAND USES

Direction	Land Use
North	Vacant former FMC Corporation industrial facility and the existing Union Pacific Railroad corridor.
East	Hickory Street; vacant former industrial lots - former Ashland Chemical Company, former SHH LLC, former FMC Corporation, and former Torian industrial properties. Site development on the Torian property is underway pursuant to the Dumbarton TOD Specific Plan.
South	Plummer Creek Wetland Mitigation Bank; access road and staging area.
West	Solar salt ponds and access road.

3.2.2 Project Site Conditions

Terrain on the project site is characterized by a series of natural hills; soil stockpiles placed in upland areas; and constructed industrial settling ponds. The surface elevations on the project site range from about 8 to 10 feet above mean sea level (amsl), with the exceptions of a rock outcrop that extends to approximately 26 feet amsl, and stockpiles that reach 30 to 35 feet amsl. The rock outcrop is located in the southeastern portion of the site, and is comprised of serpentinite



S:\PROJECTS\DDAT-ALL\DAT-02_GatewayStationCEQA\GIS\MXD\June 2015\Figure 1_Regional Location Map_offsite_2015.06.09.mxd DAT-02 06/09/15 MF

Base Map: USGS, ESRI 2014 Map Date: 06-09-2015

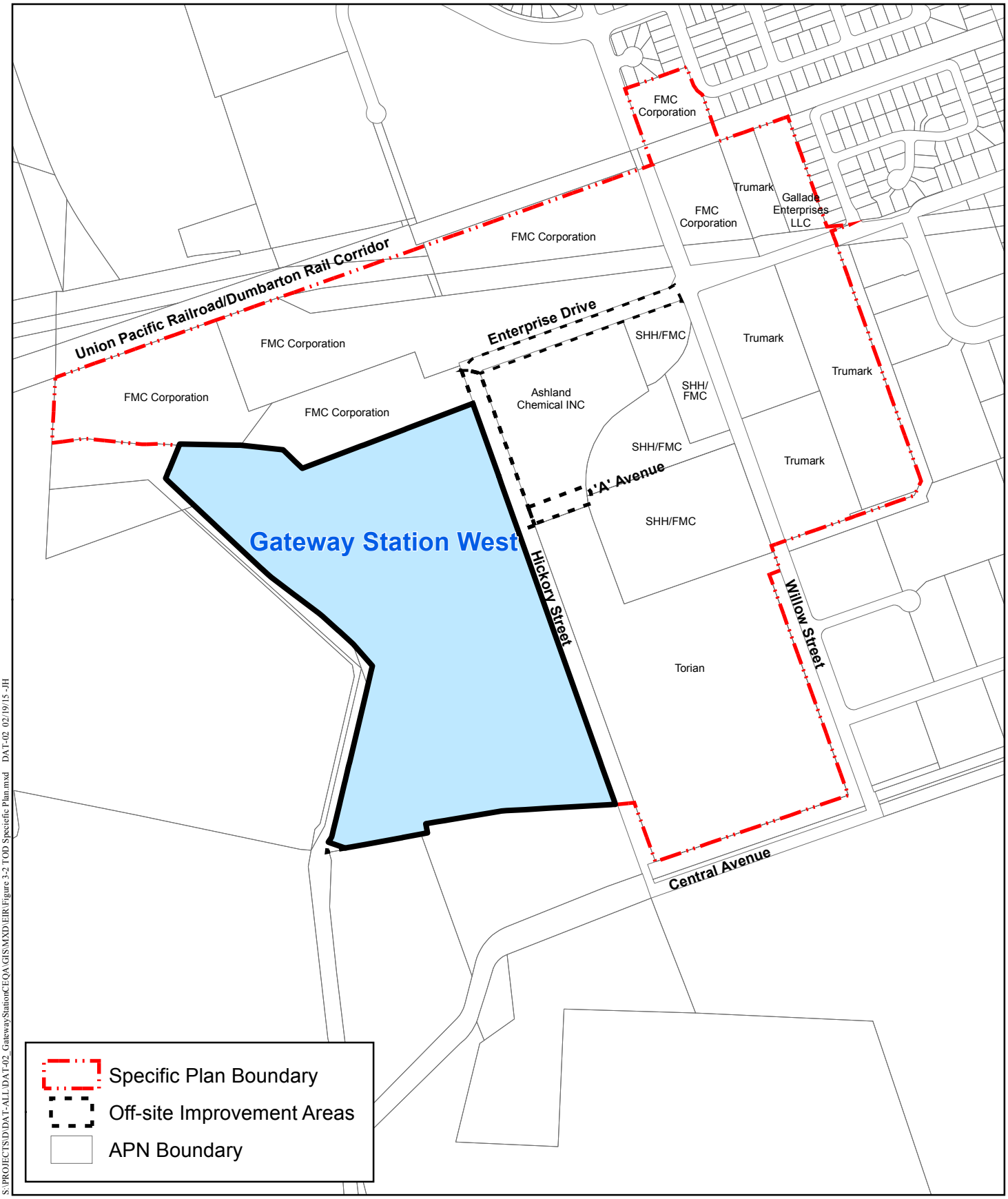
Site and Vicinity Map

GATEWAY STATION WEST

HELIX Environmental Planning

N 0 0.5 Miles 1 inch = 0.5 miles

Figure 3-1



S:\PROJECTS\D\DAT-ALL\DAT-02_GatewayStationCEQA\GIS\MXD\EIR\Figure 3-2 TOD Specific Plan.mxd DAT-02 02/19/15 -JH

Map Date: 06-17-2015

Dumbarton TOD Specific Plan Area

GATEWAY STATION WEST

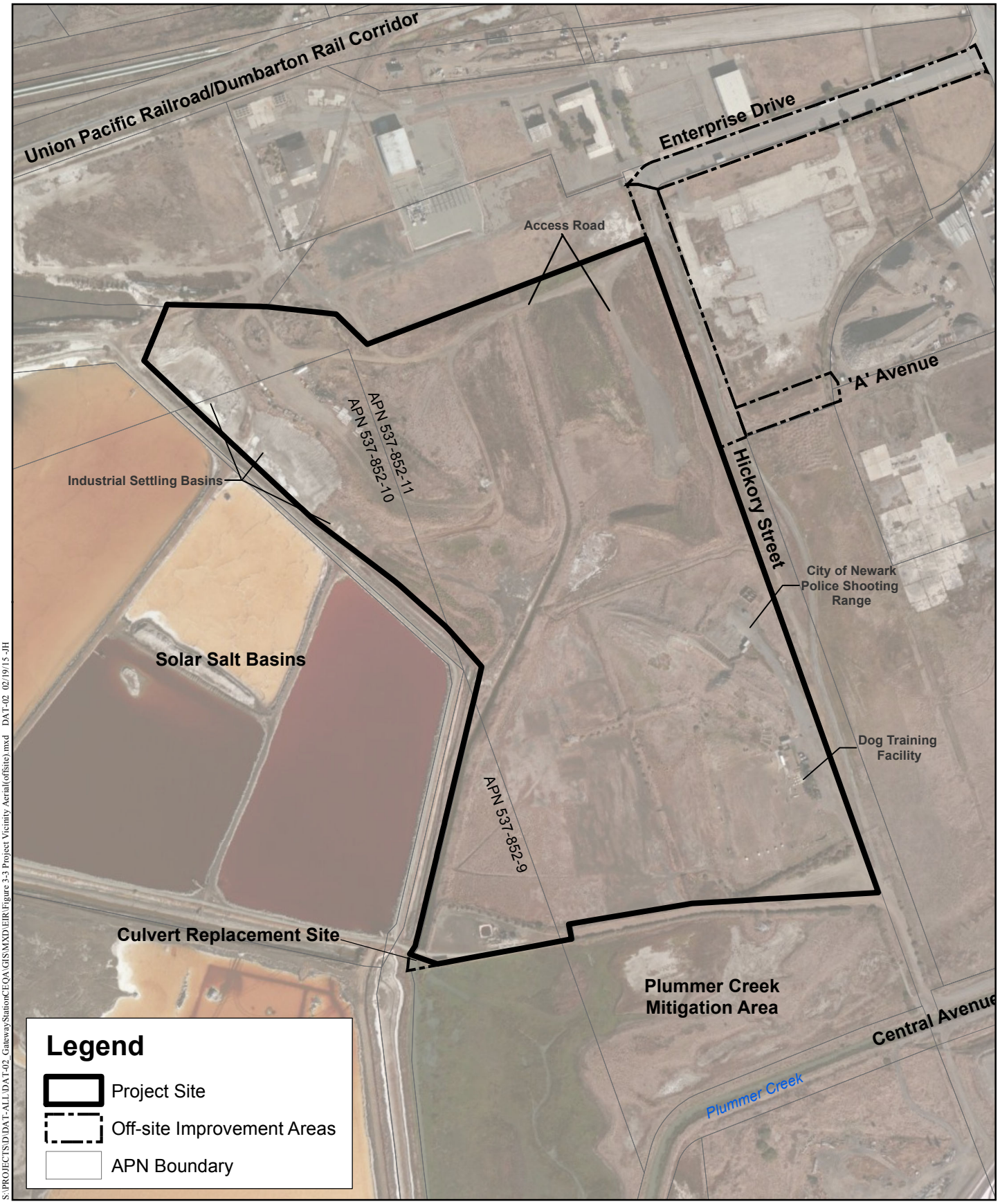
HELIX Environmental Planning

N

0 650 Feet

1 inch = 650 feet

Figure 3-2



S:\PROJECTS\D\DAT-ALL\DAT-02_GatewayStationCEQA\GIS\MXD\EIR\Figure 3-3 Project Vicinity Aerial(offsite).mxd DAT-02 02/19/15 -JH

Map Date: 06-17-2015

Aerial Map

GATEWAY STATION WEST

HELIX Environmental Planning

N

0 400 Feet

1 inch = 400 feet

Figure 3-3

bedrock that contains chrysotile, a form of naturally occurring asbestos. Vegetation communities and habitat types on the project site include non-native grassland, ruderal/disturbed habitat, coyote brush scrub, serpentinite rock outcrop, seasonal wetland, drainage ditch, an unvegetated ponded depression, and developed. Refer to Figure 3-3 for an aerial photograph of the project site and vicinity. A description of the habitats is provided in Section 4.3, *Biological Resources,* of this SEIR.

The project site has been used in the past for industrial activities, recreational uses, and police training. Those activities have resulted in the construction and operation of settling ponds associated with the manufacture of bromine and magnesia compounds, excavation of ditches for disposal of waste, removal of rock, and the placement of stockpile materials in upland areas. Access roads circumnavigate the site, and large areas are used for equipment parking/staging. The settling ponds are located in the northwest portion of the study area and were constructed in uplands as part of the processes of the former FMC industrial facility (WRA Environmental Consultants 2013). Two constructed ditches are present on the project site; one of the ditches runs generally north/south through the site and the other runs east/west and connects to the north/south ditch. The developed portion of the project site is associated with City police training facilities located in the southeast corner of the property. These facilities include a pistol range and dog training area.

Associated structures include a 2,100-square-foot (sf) building, and four others totaling 900 sf, parking, and storage. A total of 2,000 sf of concrete parking area, patios, and walkways is present on the project site. As a result of its past land uses, the project site has been subject to several clean up actions that have been completed under State supervision, as discussed below in Section 3.7, *Environmental Remediation and Mitigation.*

3.3 PROJECT OBJECTIVES

The project applicant's objectives for the proposed project encompass the City's objectives for the implementation of the Dumbarton TOD Specific Plan, as well as site-specific objectives, and include the following:

- Provide on-site residential development consistent with the densities identified in the Dumbarton TOD Specific Plan and the City General Plan Land Use Element, including housing needs identified during the period of 2015 to 2023 in the 2015 Housing Element Update.
- Provide a mix of housing opportunities from single-family to multi-family housing to meet the City's housing needs.
- Create a compact, walkable community with access to employment opportunities.
- Provide residential units within walking distance of the future, planned transit station to generate the ridership necessary to support the station in keeping with the Dumbarton TOD Specific Plan.
- Permanently preserve and/or restore sensitive biological resources (including wetlands) in the southwestern portion of the Gateway Station West project site.

- Set aside land for open space preservation and recreation opportunities, including the candidate trail proposed for San Francisco Bay Trail status.

- Develop a focused new community with a distinct identity, architectural style and sense of place while being compatible with existing and planned neighborhoods.

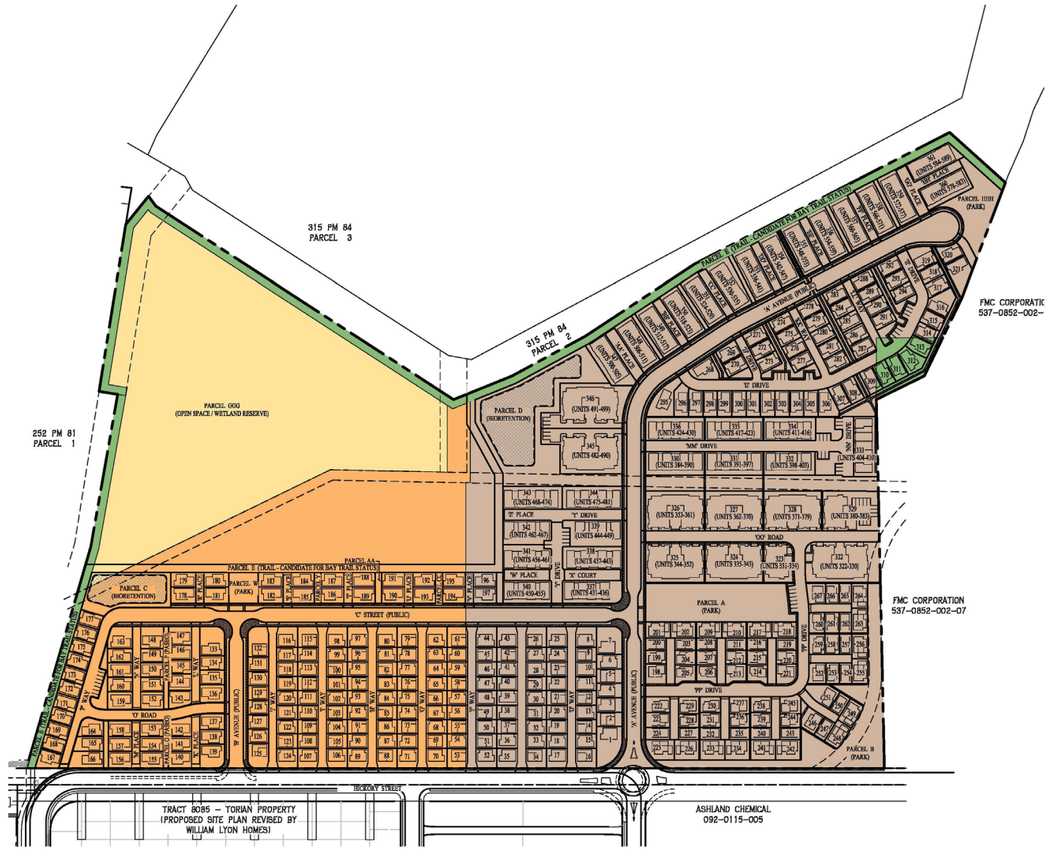
The Gateway Station West Project is also considered to be an example of "smart growth" that is designed to support existing and future public transit, create a walkable community, use land more efficiently through compact development design, and reduce urban sprawl on the periphery of the City. This "smart growth" design would encourage social, civic, and physical activity, while protecting environmental resources and stimulating economic growth.

3.4 PROJECT CHARACTERISTICS

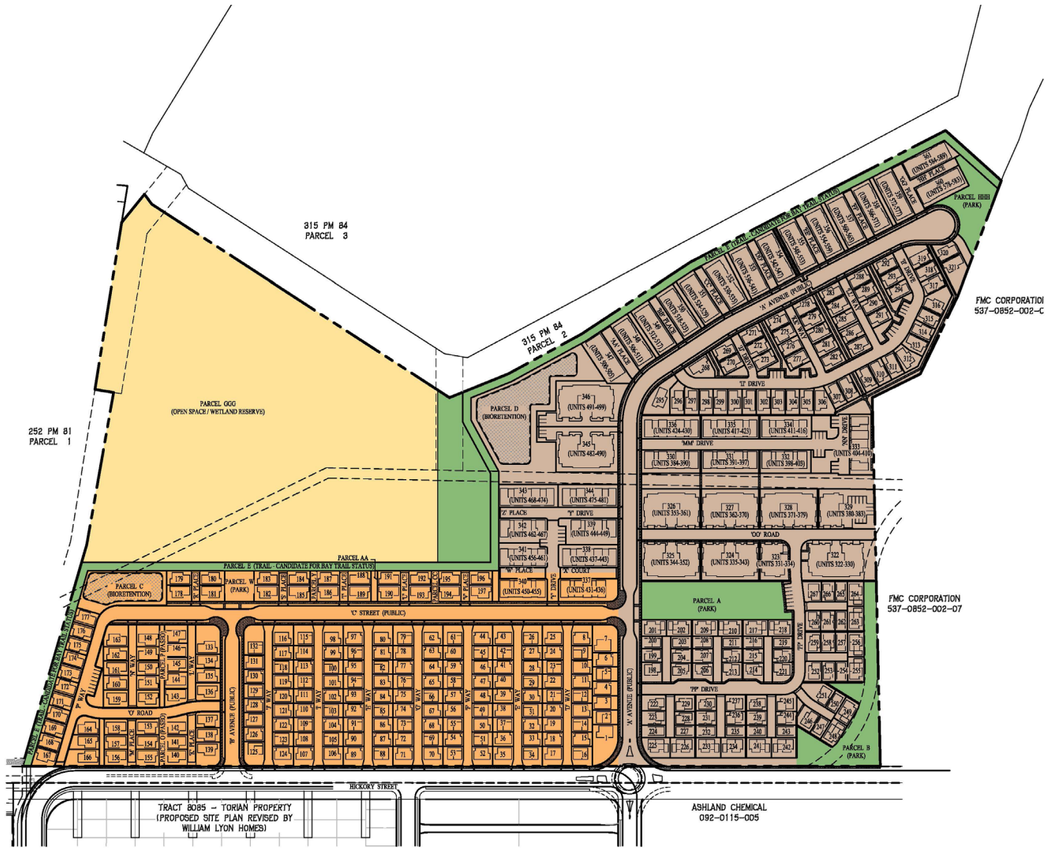
The proposed project would provide for the development of seven villages with 589 single- and multi-family residential units and associated infrastructure (parking areas, parks, trails, storm water facilities, and roadway and utility infrastructure) on approximately 41 acres of the 54.5-acre project site. The project site is planned in the Dumbarton TOD Specific Plan for low-density residential (LDR), medium-density residential (MDR), medium/high-density residential (MHDR) and Parks & Recreational Open Space land uses as illustrated on Figure 3-4, *Approved and Adjusted Land Use Plan*. Adjustments to the land use plan and land use table in the Dumbarton TOD Specific Plan would be required to implement the project, as described below.

Single-family detached homes (321 units) are planned for Lots 1 through 321, and attached condominiums (268 units) are planned for Lots 322 through 361 (i.e., Units 322 through 589). Refer to Figure 3-5, *Site Plan*, for the proposed site plan design. A total of 321 single-family homes on approximately 15.29 net acres would comprise Villages 6, 8, 10, and 11 of the proposed project (net acres include the identified residential use, but do not include related uses such as roads, with additional information provided below). These single-family lots would range in size from approximately 1,530 to 4,456 sf (with the average single-family lot size being 2,076 sf) and implement primarily the Medium Density Residential (MDR) land use designation in the Specific Plan. A total of 268 multi-family units on approximately 8.31 net acres are proposed for development within Villages 5A, 5B, 7A, 7B, and 9; multi-family lots would range in size from approximately 6,208 to 19,177 sf (with an average lot size of 9,056 sf). The multi-family units would correspond with the Medium/High Density Residential (MHDR) land use designation in the Specific Plan.

Additional proposed site improvements include on- and off-street parking, drive aisles, underground utilities, drainage structures, lighting, trails, sidewalks, parks and landscaping. The project features are summarized in Table 3-2, *Summary of Project Features,* with the approved and proposed land use designations shown in Table 3-3, *Approved and Proposed Project Site Land Use Designations and Development* (refer also to Figure 3-4).



ADOPTED LAND USE PLAN

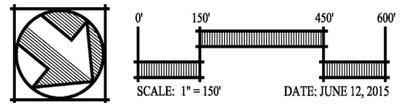


ADJUSTED LAND USE PLAN

LAND USE TABLE							
	LAND USE	ADOPTED PROJECT (AC)	ADJUSTED PROJECT (AC)	DELTA (AC)	ADOPTED SPECIFIC PLAN (AC)	ADJUSTED SPECIFIC PLAN (AC)	DELTA (%)
	LOW DENSITY RESIDENTIAL	9.19	12.55	+3.36	16.84	20.20	19.95
	MEDIUM DENSITY RESIDENTIAL	14.17	14.77	+0.60	67.86	68.46	0.90
	MEDIUM HIGH DENSITY RESIDENTIAL	29.00	22.80	−6.20	59.34	53.14	10.45
	PARKS & RECREATIONAL OPEN SPACE	2.17	4.41	+2.24	16.26	18.50	13.78
	TOTAL PROJECT AREA	54.53	54.53	0.00	160.30	160.30	0.00

UNIT SUMMARY TABLE						
	LAND USE	ALLOWABLE DENSITY RANGE	ADJUSTED PROJECT (AC)	MINIMUM UNITS	MAXIMUM UNITS	PROPOSED UNITS
	LOW DENSITY RESIDENTIAL	0-14 DU/AC	12.55	0	176	0
	MEDIUM DENSITY RESIDENTIAL	14-25 DU/AC	14.77	207	369	209
	MEDIUM HIGH DENSITY RESIDENTIAL	16-60 DU/AC	22.80	362	1,358	380
	PARKS & RECREATIONAL OPEN SPACE	0 DU/AC	4.41	0	0	0
	TOTAL		54.53	569	1,903*	589

*NOTE: THE TOTAL MAXIMUM NUMBER OF UNITS IS LIMITED TO 652 BY TABLE 4.2-UNIT ALLOCATION TABLE OF THE DUMBARTON SPECIFIC PLAN.



S:\PROJECTS\DDAT-ALL\DAT-02_GatewayStationCEQA\Figures\EIR\indd\LU_GPO-01 150612-JH

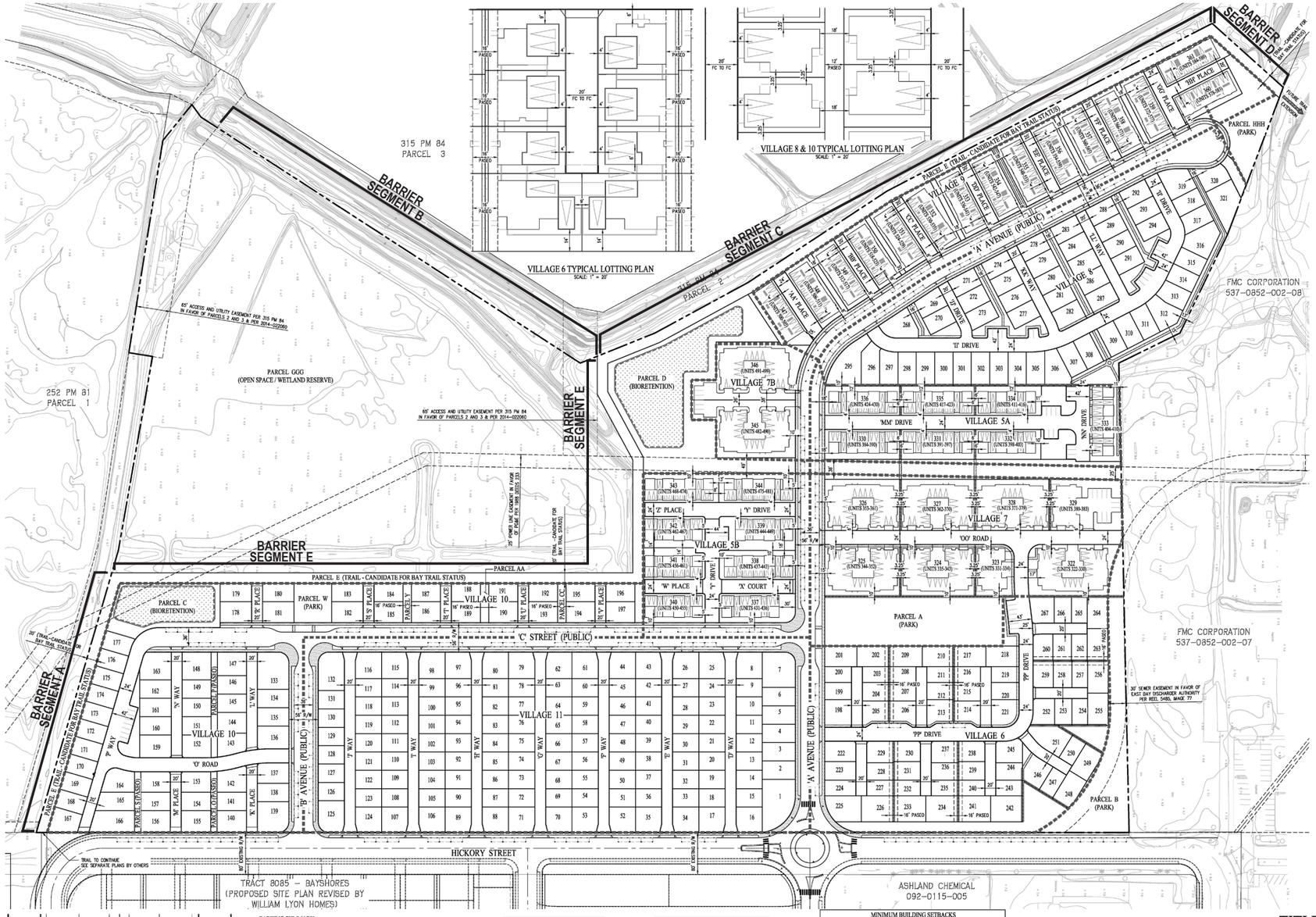
Source: Carlson, Barbee & Gibson, Inc./ Memorandum (Planning Area Adjustment Gateway Station West) 2015a

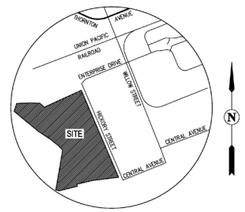
Approved and Adjusted Land Use Plan

GATEWAY STATION WEST

Figure 3-4

HELIX Environmental Planning





VICINITY MAP

NOT TO SCALE

GENERAL NOTES:

1. OWNER/DEVELOPER: DUMBARTON AREA 2, LLC
500 LA GONDA WAY, SUITE 102
DANVILLE, CA 94526
CONTACT: GLENN BROWN
(925) 362-3749

2. ENGINEER: CARLSON, BARBEE & GIBSON, INC.
2633 CAMINO RAMON, SUITE 350
SAN RAMON, CA 94583
CONTACT: GREG MILLER
(925) 866-0322

3. SOILS ENGINEER: BERLOGAR, STEVENS & ASSOCIATES
5587 SUNOL BOULEVARD
PLEASATON, CA, 94566
CONTACT: FRANK BERLOGAR
(925) 484-0220
(925) 846-9645 (FAX)

4. EXISTING USE: LIGHT INDUSTRIAL

5. SUBDIVISION AREA: 54.53±
DEVELOPABLE AREA: 41.0±

6. NUMBER OF UNITS 589 UNITS

7. THIS PROPERTY LIES IN THE JURISDICTION OF:
FIRE PROTECTION
CITY OF NEWARK FIRE PROTECTION DISTRICT
DOMESTIC WATER
ALAMEDA COUNTY COUNTY WATER DISTRICT
SANITARY SEWER
UNION SANITARY DISTRICT
STORM DRAIN WITHIN STREETS, LANES & PASEOS
CITY OF NEWARK (SDE)
STORM DRAIN WITHIN PRIVATE YARDS
PRIVATELY MAINTAINED BY HOMEOWNERS (PSDE)
GAS & ELECTRIC SERVICE
PACIFIC GAS & ELECTRIC
TELEPHONE SERVICE
AT&T

8. ROADWAYS AND PARCELS: UNLESS OTHERWISE NOTED (I.E. PUBLIC) ALL ROADWAYS AND PARCELS ARE TO BE MAINTAINED BY THE HOA ESTABLISHED WITH THE PROJECT. PUBLIC ACCESS EASEMENTS WILL BE DEDICATED OVER PARCEL E FOR PUBLIC USE.

9. PROPOSED LAND USE SUMMARY: SEE TABLE (THIS SHEET)

10. ASSESSORS PARCEL NUMBERS: 537-0852-009
537-0852-010
537-0852-011

11. BENCHMARK: CITY OF NEWARK OFFICIAL BENCHMARK NO. 62, ALSO BEING AN ALAMEDA COUNTY BENCHMARK, THE TOP OF CURB AT STORM WATER INLET AT THE NORTH-EAST CORNER OF THORTON AVENUE AT WILLOW STREET, ELEVATION TAKEN AS 11.39 (NAVD 88) (8.661 NGVD 29 PER CITY OF NEWARK RECORDS).

12. TOPOGRAPHY: PREPARED BY HJW GEOSPATIAL, INC. DATED MAY 2005

13. FLOOD ZONE: ZONED X AND AE
FLOOD INSURANCE RATE MAP (FIRM)
COMMUNITY PANEL NUMBER: 060009 0443 G

14. THIS PROJECT MAY BE BUILT IN PHASES AND MULTIPLE FINAL MAPS MAY BE FILED. A PHASING PLAN WILL BE PROVIDED TO THE CITY OF NEWARK PRIOR TO FINAL MAP APPROVAL.

15. LOTS 1 – 321 WILL BE RESIDENTIAL LOTS
LOTS 322 – 361 (UNITS 322–589) WILL BE CONDOMINIUM UNITS.

16. LOT DIMENSIONS AND AREAS ARE APPROXIMATE AND ARE ROUNDED TO THE NEAREST WHOLE NUMBER. EXACT DIMENSIONS AND AREAS WILL BE PROVIDED ON THE FINAL MAP

17. ALL BUILDINGS SHALL BE EQUIPPED WITH AN AUTOMATIC FIRE SPRINKLER SYSTEM AS REQUIRED BY CHAPTER 15.09.020.G OF THE NEWARK MUNICIPAL CODE.

18. GRADING SHOWN IS PRELIMINARY AND SUBJECT TO CHANGE DURING FINAL DESIGN.

19. ALL UTILITIES SHOWN ARE TO BE USED AS A GUIDE AND MAY CHANGE DURING FINAL DESIGN.

PARKING SUMMARY

PARKING REQUIRED:
OFF-STREET COVERED SPACES PER UNIT (2 PER UNIT) =(321X2)+(268X2) = 1,178 SPACES
GUEST SPACES* = 20% OF MULTI-FAMILY UNITS ÷ 1 = ((268X0.20)+1)) = 55 SPACES
TOTAL PARKING REQUIRED = 1,233 SPACES

PARKING PROVIDED:
OFF-STREET COVERED SPACES (589X2) = 1,178 SPACES

GUEST:
ON-SITE PARALLEL SPACES (W–TRACT) = 152 SPACES
OFF–SITE PARALLEL SPACES (HICKORY STREET) = 53 SPACES
ON–SITE 90 DEGREE SPACES (W–TRACT) = 54 SPACES
ON–SITE ACCESSIBLE SPACES (W–TRACT) = 12 SPACES
TOTAL GUEST PARKING = 271 SPACES

TOTAL PARKING PROVIDED = 1,449 SPACES

(*17.60.030A.2.C OF NEWARK MUNICIPAL CODE REQUIRES 20% +1)

NOTE
PARKING SPACES ARE SHOWN ON SHEET TM

LAND USE SUMMARY

LAND USE	AREA (AC)
SINGLE FAMILY LOTS	15.29
MULTI FAMILY LOTS	8.31
PUBLIC STREETS	4.47
PRIVATE STREETS & ALLEYS	5.78
PARKS	2.24
PASEOS/OPEN SPACE	1.64
TRAIL	1.58
WATER QUALITY	1.67
OPEN SPACE	13.55
TOTAL PROJECT AREA	54.53

UNIT SUMMARY

VILLAGE	NUMBER OF UNITS
VILLAGE 5A & 5B – UA LOFT SPLIT	68
VILLAGE 6 – UA SFD CLUSTER	70
VILLAGE 7A & 7B – UA PB	80
VILLAGE 8 – 35 x 55 UA ALLEY	54
VILLAGE 9 – UA FLATS	90
VILLAGE 10 – 35 x 55 UA ALLEY	65
VILLAGE 11 – 35 x 50 UA FRONT	132
TOTAL	589

MINIMUM BUILDING SETBACKS

	REQUIRED SINGLE FAMILY DETACHED (ALLEY LOADED)	REQUIRED SINGLE FAMILY ATTACHED (ALLEY LOADED)
LOT SIZE		
WIDTH, ft	30–60	15–35
DEPTH, ft	50–150	50–90
SETBACKS		
FRONT		
PORCH/STOOPS, ft	6	6
BUILDING FACE, ft	8	8
REAR		
MAIN BUILDING, ft	10	10
GARAGE, ft (2)	4	4
SIDE		
MAIN BUILDING, ft	3.25	3.25
MAIN BUILDING AT CORNERS, ft (4)	8.52/5	8.25/5
PORCH/STOOPS AT CORNERS, ft	6	6
GARAGE, ft	3.25	3.25
GARAGE AT CORNERS, ft (4)	8.25/5	8.25/5
MAXIMUM SITE COVERAGE, % (NOT INCLUDING PORCHES) (3)	60	85

NOTES:
1.REQUIRED SETBACKS AREA BASED ON THE TABLE IN SECTION 17.37.080 UNLESS OTHERWISE NOTED.

2. FOR ALL ALLEY–LOADED HOMES, THE SETBACK MAY BE REDUCED TO FOUR FEET TO THE GARAGE DOOR.

3. FRONT SETBACK AND SITE COVERAGE MEASURED TO THE CENTERLINE OF TRAIL AND CENTERLINE OF PASSEO PER SECTION 17.37.080 F.

4. SIDE STREET SETBACK OF 5 FEET PER SECTION 17.37.060 D AND 17.37.080 H.

TITLE SHEET AND SITE PLAN
VESTING TENTATIVE MAP
TRACT 8099
GATEWAY STATION WEST

CITY OF NEWARK ALAMEDA COUNTY CALIFORNIA

0' 60' 180' 240'
SCALE: 1" = 60'

DATE: JUNE 3, 2015

Carlson, Barbee & Gibson, Inc.
CIVIL ENGINEERS - SURVEYORS - PLANNERS
2633 CAMINO RAMON, SUITE 350
SAN RAMON, CALIFORNIA 94583
(925) 866-0322
www.cbandg.com

SHEET NO. TM-1 OF 9 SHEETS

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Source: Carlson, Barbee & Gibson, Inc. 2015

Site Plan

GATEWAY STATION WEST

Figure 3-5

Table 3-2
SUMMARY OF PROJECT FEATURES

Project Feature	Number Units/Spaces	Acres
Residential Development/Parking		
Single-family residential units	321 units	15.29
Multi-family residential units	268 units	8.31
Off-street covered parking spaces	1,178 spaces	---
Parallel and 90-degree street parking spaces	259 spaces	---
Handicap accessible spaces	12 spaces	---
Subtotal for Residential/Parking	*589 Units/1,449 Spaces*	*23.60*
Parks/Roadways/Trails/Water Quality Features		
Neighborhood parks	---	2.24
Public streets	---	4.47
Private streets and alleys		5.78
Paseos (walkways)/green areas	---	1.64
Candidate San Francisco Bay Trail	---	1.58
Water quality treatment basins (bioretention, etc.)	---	1.67
Subtotal for Parks/Roadways/Trails/Water Quality	---	*17.38*
Development Totals	***589 Units/1,405 Spaces***	***40.98***
Open Space/Donation		
Open space	---	7.55
Future land donation (Not a part)	---	6.00
Open Space/Donation Totals	---	***13.55***
PROJECT SITE TOTALS	**589 Units/1,405 Spaces**	**54.53**

Source: Gateway Station Vesting Tentative Map and Site Plans Tract 8099 dated June 3, 2015, prepared by Carlson, Barbee & Gibson, Inc.

To implement the proposed project, a minor adjustment would be needed to the adopted Land Use Table (i.e., Table 4.1) and Land Use Map (Exhibit 4.1) in the approved Dumbarton TOD Specific Plan (as amended). Table 3-4, *Proposed Project/Specific Plan Land Use Designation Changes*, summarizes these proposed modifications, while Figure 3-4 shows the configuration of Specific Plan land use designations as modified by the proposed project design. Because these changes would result in a less than 20 percent change from the original gross acreages approved in the Specific Plan, an amendment would not be required for the Gateway Station West Project (pursuant to related criteria in Section 9.4, *Implementation Methods and Programs* [pp. 149-151], of the adopted Dumbarton TOD Specific Plan, City 2010).

Table 3-3
APPROVED AND PROPOSED PROJECT SITE LAND USE DESIGNATIONS AND DEVELOPMENT

Land Use Designation/Density Range (dwelling units/acre)	Approved		Proposed	
	Gross Acres[1]	Units[2]	Gross Acres[1]	Units[3]
Low Density Residential (LDR)/ Up to 14 du/ac	9.19	0-129	12.55	0[4]
Medium Density Residential (MDR)/ 14-25 du/ac	14.17	198-354	14.77	209
Medium/High Density Residential (MHDR)/16-60 du/ac	29.00	464-1,740	22.80	380
Parks & Open Space (POS)	2.17	0	4.41	0
TOTALS	54.53	662-2,223[5]	54.53	589

Source: Carlson, Barbee & Gibson 2015a; City 2010

[1] Gross acres include the associated residential development, as well as related uses such as roads and water quality features, refer to Table 3-2.

[2] The range of units equals the gross acreage multiplied by the density range (du/ac).

[3] This column includes the number of units proposed at the Gateway Station West project site (with the number of units for each land use designation within the associated range based on the allowable density range [du/ac] and the proposed gross acreage).

[4] This area is within the Parcel GGG Open Space Wetland Preserve, with no residential (or other) development proposed.

[5] The maximum number of units on the project site is limited to 652, pursuant to Table 4.2, *Unit Allocation Table*, of the Dumbarton TOD Specific Plan.

Table 3-4
PROPOSED PROJECT/SPECIFIC PLAN LAND USE DESIGNATION CHANGES
(Acres Unless Otherwise Noted)

Land Use Designation	Adopted Project	Adjusted Project	Project Site Change	Adopted Specific Plan	Adjusted Specific Plan	Specific Plan Change (Acres/Percent)
Low Density Residential	9.19	12.55	+3.36	16.84	20.20	+3.36/19.95
Medium Density Residential	14.17	14.77	+0.60	67.86	68.46	+0.6/0.90
Medium/High Density Residential	29.0	22.80	-6.20	59.34	53.14	-6.20/10.45
Parks/Recreation/ Open Space	2.17	4.41	+2.24	16.26	18.50	+2.40/13.78
TOTAL	**54.53**	**54.53**	**0**	**160.30**	**160.30**	**0/0**

Source: Carlson, Barbee & Gibson 2015a

3.4.1 Residential Buildings

Both single- and multi-family residential units are proposed on site, and include a variety of housing types and sizes as described below.

Single-family Units

Three styles of single-family residences are proposed for the project site, including the Front Loaded (Village 11), Alley Loaded (Villages 8 and 10) and Cluster (Village 6) options. The 133 Front Loaded single-family homes would be three stories in height, and there are three floor plan options for these residences (all four-bedroom units). The 118 Alley Loaded units would also be three stories, and have three floor plan options (ranging from four to six bedrooms in size). The 70 Cluster homes would be three stories in height and slightly smaller in overall size than the other two single-family styles, featuring both three- or four-bedroom floor plans.

The Front Loaded style homes in Village 11 would provide garage access at the front of the house, which would face the roadway. Conversely, the Alley Loaded style homes in Villages 8 and 10 would provide garage access at the rear of the units; therefore, the house would be oriented so that the rear faces towards the roadway. The front of the house would not face a roadway, but rather would face a paseo/walkway. The Cluster homes in Village 6 would be situated around a series of private driveways with garage-access to the units. Refer to the description of internal circulation in Section 3.4.2, *Circulation*, for more information regarding driveway access.

The architectural styles of the single-family homes would be Farmhouse, Craftsman and Agrarian, consistent with the Dumbarton TOD Specific Plan form based code. Refer to the Architectural Site Plans in Appendix B for the unit floorplans and building perspectives.

Multi-family Units

Within Villages 5A and 5B, the project applicant proposes to construct 15 three-story townhome structures (containing a total of 98 loft split units); four floor plan options (ranging from two- to four-bedroom options) would be available for these buildings, and the units would have garage space (two cars per unit) on the first story. Additionally, 8 nineplex and 2 fourplex buildings would be constructed in the central portion of the site in Villages 7A and 7B; these condominium buildings would contain of a total of 80 residential units. Most of these buildings would be three stories high with garage space (two cars per unit) on the ground level; one floor plan would offer a two-story option. Five floor plan options would be available for the units including two-, three- and four-bedroom units. Additionally, 15 townhome complexes containing 90 flat units (three stories in height) are proposed for Village 9 in the northwestern portion of the project site. Four floor plan options (all three-bedroom) would be available for these flat units. In total, 268 multi-family units would be constructed in five villages on site.

Similar to the single-family units, the architectural styles of the townhomes would be Farmhouse, Craftsman and Agrarian, consistent with the Dumbarton TOD Specific Plan form based code. The buildings would be constructed of a combination of materials and would feature varying rooflines, doors, balconies, trellises and other aesthetic elements to provide visual

interest to the facades of the structures. Refer to the Architectural Site Plans in Appendix B for the unit floorplans and building perspectives.

3.4.2 Circulation

Vehicular Access/Street Design

As shown on Figure 3-5, 'A' Avenue, 'B' Avenue, and 'C' Street would comprise the on-site circulation, being arterial private roadways that provide internal access for the project site. Ancillary roadways and driveways would intersect these main roadways, and provide internal circulation for the villages. 'C' Street would be a north/south oriented roadway that would intersect with 'A' Avenue and 'B' Avenue. 'A' Avenue, 'B' Avenue and 'C' Street are proposed to be 36 feet wide within 56-foot wide ROW corridors (including sidewalks). From off-site locations, the project site would be accessed from Hickory Street via 'A' Avenue and 'B' Avenue, which would be northeast/southwest oriented on-site roadways. Several ancillary roadways providing access to the front-loaded homes in Village 11 would also provide direct access to Hickory Street. In addition, the project would be accessed via the future extension of 'A' Avenue between Hickory and Willow streets, as well as from Enterprise Drive east of Hickory Street (refer to Figure 3-3). Based on the current timing of the Torian and SHH projects, the proposed project would construct the previously described off-site improvements along Hickory Street, Enterprise Drive and the 'A' Avenue extension (with additional information provided below in Section 3.4.8). Many project driveways would connect directly to Hickory Street and the on-site portion of 'A' Avenue.

Parking

A total of 1,449 parking spaces would be provided for the proposed project, including 1,178 off-street covered spots, including two per unit for single- and multi-family residential (refer to Table 3-2). An additional 271 total on-site street spots would also be provided, including 12 handicap accessible spaces.

Pedestrian Circulation

The project would include walkways and sidewalks throughout the site, including along the perimeter of the project site that fronts Hickory Street and along both sides of 'A' Avenue, 'B' Avenue, and 'C' Street. A section of trail under the proposed project design is a "candidate for status" as part of the San Francisco Bay Trail (with the proposed trail hereafter referred to as the candidate trail, see Parcel 'E' on Figure 3-5). The candidate trail would follow portions of the southern and western perimeter of the project site, adjacent to the Plummer Creek Wetland Mitigation Bank on the south, the proposed open space in the southwest corner of the project site (see the discussion of Open Space in Section 3.4.4, *Parks and Open Space*), and the solar salt ponds to the west. The candidate trail would eventually provide connectivity to future Specific Plan developments off-site to the north (which is planned to include commercial/retail and the transit station) and to the east (the Torian Project site). A walkway along the eastern edge of the site would provide connectivity between the Village 6 area and a park in the northeast corner of the site (Parcel 'B'). Additional walkways in the villages would provide internal pedestrian circulation along ancillary roadways and between townhomes.

3.4.3 Fire Access

The 'A' Avenue, 'B' Avenue, and 'C' Street roadways would be 36 feet wide and the ancillary roadways would be 20 feet wide. The minimum width available for driving or turning movements through the project site is 20 feet; which is wider than the minimum driving width and turning radius necessary for fire trucks. Therefore, all roadways on the project site would provide the dimensions necessary for fire truck access (Refer to the Fire Access Plan [TM-6 and TM-7] in Appendix B for additional information).

3.4.4 Parks and Open Space

Parks and Community Use Areas

Approximately 2.24 acres of park area are included in the proposed project, with an additional 1.58 acres of public trail. One park would be sited on Parcel 'A', which would be located immediately north of the intersection of 'C' Street and 'A' Avenue. This park would feature landscaping (including trees), a turf area, outdoor workout equipment, a shaded play area with a rubberized play structure, a barbeque area, swings, picnic tables, basketball hoops and a sand volleyball court. Another park would be sited on Parcel 'B', which is located in the northeast corner of the project site near the intersection of Enterprise Drive and Hickory Street. This park would feature an open turf area, benches, large park trees, and exercise stations. A small park would also be located on Parcel 'HHH' along the northern side of the project site at the terminus of the ''A' Avenue cul-de-sac; this park would have benches and a tot lot and front the candidate San Francisco Bay Trail extension proposed on site (described below). Finally, a small park would be located on Parcel 'W' just west of the 'B' Avenue and 'C' Street intersection in the southeastern portion of the site. This park would include a tot lot and related facilities geared towards children ages 2 to 5, as well as bench seating, decorative pavement elements and shade trees intended to create a grove-like setting. Trees planted along the perimeters of all the described parks would provide some screening between the parks and the adjacent homes. Refer to Figure 3-5 for the locations of the parks on the project site.

The section of the candidate trail (Parcel 'E') along portions of the southern and western edges of the project site would include parallel but separate bicycle and pedestrian trails with benches and landscaping. The 20-foot wide, multi-purpose trail would be situated between the edge of development and the salt ponds and Plummer Creek Wetland Mitigation Area to the south and west of the project site. In addition, the project design includes three types of fencing/barriers along the noted trail, with these proposed barriers outlined below and the locations of the associated trail/barrier segments shown on Figure 3-5:

- Segment A – The section of barrier along the southern project boundary (Segment A) would consist of a 4-foot high masonry wall topped with a 4-foot high (8-foot total height) black colored woven wire mesh (not chain link) in a square or rectangular pattern. The woven wire spacing would be no tighter than 3 inches. The 2-inch square metal tubing posts would be spaced 8 to 10 feet on center, and topped with a continuous 2-inch square metal tubing rail. Fence posts and rails would also be black colored.

- Segments B through D – The entire portion of the project boundary adjacent to the solar salt ponds (Segments B through D) would consist of 6-foot high woven wire mesh panels in a square or rectangular pattern, with 3-inch minimum spacing for the top 3 feet and 0.5-inch mesh spacing on the lower 3 feet. Two-inch diameter posts would be spaced approximated 8 to 10 feet on center, with the top rail and mid rail also to be 2-inch diameter. All woven wire mesh panels, posts and railings will be black colored.

- Segment E - The portion of the proposed trail/barrier inside the project boundary (Segment E) would have a 4-foot high precast concrete "split rail" fence along the eastern and southern sides. The split rail fencing would have three rails and posts spaced 8 feet on center, with all posts and rail components to be textured to simulate wood grain and sand integral color.

An additional 5.78 acres of paseos (walkways) and associated green areas are proposed on 34 separate parcels throughout the project site. These areas would be landscaped and maintained as community use areas.

Open Space

A total of 7.55 acres within the 13.55-acre Parcel 'GGG', located in the southwest corner of the project site, is proposed as open space (see Figure 3-5) and would be preserved and maintained as native habitat as part of the proposed project. The area is characterized by seasonal wetland, with minor upland components within and around the perimeter of the wetland. Although an additional 6 acres within Parcel 'GGG' would be donated to a non-profit entity for conservation at some point in the future, the land donation action is not part of the proposed project and is not being evaluated under CEQA in this SEIR.

3.4.5 Infrastructure

Grading and Drainage

Approximately 41 acres of the 54.5-acre project site would be disturbed during site preparation and grading. In preparing the site for construction, existing structures associated with the pistol range and dog training area would be removed, debris and vegetation would be cleared, and the site would be graded. Any remediation related to naturally occurring asbestos and other sources of contamination would be conducted as part of the construction activities (refer to Section 3.7). The project site would be graded to achieve 0.5 to 2 percent slope. Manufactured slopes would be constructed with a maximum 2:1 slope from the top of the pad to the proposed finished ground.

A portion of the site is within a Federal Emergency Management Agency (FEMA) 100-year flood zone. According to the Shoreline Areas Vulnerable to Sea Level Rise Central Bay South Inundation Map (San Francisco Bay Conservation and Development Commission [SFBCDC] 2008), the forecasted rise in sea level in the western portion of the Dumbarton Specific Plan area could increase flood-related impacts, especially from storm surge-induced flood events. Section 15.40.51 of the City's Municipal Code has flood elevation standards for lands within special flood hazard areas as defined by FEMA. Those standards require building pads of all occupied structures to be a minimum of 11.25 feet amsl with the finished floor being a minimum

of 6 inches above the building pad. Site elevation following grading would comply with those requirements by importing fill material for placement on the site (see Section 3.5, *Cut and Fill Quantities/Impervious Surfaces*).

A Low Impact Development (LID) storm drain system comprised of bio-retention areas, curbs and gutters along the roadways, and underground storm drain pipes would be installed as part of the project. The grading described above would delineate the site into two drainage management areas – 9.9 acres in the southeast portion of the site would comprise drainage management area 1, and 29.1 acres in the northern portion of the site would comprise drainage management area 2 (refer to TM-5 in Appendix B). Storm water in drainage management area 1 would be collected in storm drains and directed to a 11,438-sf bioretention basin located at the southern site boundary (Parcel 'C'), just east of the open space area (Figure 3-5). The bioretention basin would feature plants and gravel to filter storm water. An overflow outlet would drain to the open space west of the bioretention basin. A second bioretention basin would be located at the western site boundary (Parcel 'D'), just north of Parcel 'GGG'. This 30,497-sf bioretention basin would collect storm water from the storm drain system in drainage management area 2, and would function similarly to the bioretention basin on Parcel 'C'. The treated overflow would drain via a new outflow structure to the drainage ditch that flows south and exits the project site at its southwestern corner.

As noted above in Section 3.2, *Project Setting*, the existing culvert near the southwestern site boundary would be replaced to accommodate proposed drainage. This activity would entail a total disturbance footprint of approximately 0.1 acre, with this area roughly split between on- and off-site activities. Specific elements of this replacement would involve removing the existing culvert, installing a new box culvert (along with related facilities such as headwalls and guardrails, and implementing applicable recontouring/restoration (with additional description provided below in Section 3.4.8).

Water Service

The Alameda County Water District (ACWD) would supply water to the project, as described in the Dumbarton TOD Specific Plan EIR and the associated Water Supply Assessment (see Appendix L of this SEIR). The main water service to the project site would be from 10-inch-diameter water lines installed along 'P' Way, 'A' Avenue, and 'C' Street in accordance with ACWD Standards. These water lines would connect to future water lines in Hickory Street. Eight-inch diameter water lines would be installed throughout the project, with on-site tie-ins to the 10-inch-diameter water lines and an off-site tie-in to Hickory Street at 'B' Avenue. The ACWD indicated in the adopted Water Supply Assessment for the Dumbarton TOD Specific Plan EIR that demand associated with the Specific Plan would be consistent with its planning assumptions and is included in its forecast and water supply planning (ACWD 2010).

Sanitary Sewer Service

The Union Sanitary District would provide sanitary sewer service to the project site. Eight-inch diameter sanitary sewer lines would be installed in the main and ancillary roadways throughout the project site, and wastewater would gravity-flow off-site to the east via a proposed 8- to 12-inch sanitary sewer line in 'A' Avenue. This sewer line would continue east and connect to

an existing 36-inch gravity sewer main in Willow Street, which ultimately connects to additional existing gravity mains and flows to the Newark Pump Station near the northwest corner of the Specific Plan area. Wastewater from the Newark Station is then pumped to the Alvarado Treatment Plant, approximately 5 miles to the north.

3.4.6 Easements

Existing easements on the project site would remain and are incorporated into the project Tentative Map. Specifically, a 65-foot wide access and utility easement in favor of the property to the west of the project site is located in the southwest corner of the project site. An additional 65-foot wide utility easement is located near the northern boundary of the proposed open space. From the northern site boundary, a 25-foot wide Pacific Gas and Electric (PG&E) power line easement extends north/south through the center of the project site. Near the center of the proposed open space area, the easement turns slightly and extends to the southeast. An approximately 55-foot wide area along the easement would remain undeveloped where it extends through the development area of the project site. A 30-foot wide East Bay Discharge Authority sewer easement with existing underground sewer lines extends through the project site in the northeastern portion of the site, and follows Hickory Street. The easement would remain partially undeveloped, although the Parcel 'B' park would be constructed within a portion of the easement.

3.4.7 Landscaping

The project proposes a landscaping plan that includes California-native, Mediterranean or climate-adapted plants, ornamental trees, shrubs, and groundcover. The conceptual landscaping design concentrates plantings along the perimeter of the project site, along village roadways and parking areas, and in park areas. The open space in the southwestern corner of the project site would be left undisturbed, and would not be planted.

Vegetation utilized in landscaping would include a wide array of trees and shrubs. No plants listed as invasive by the California Invasive Plant Council (Cal-IPC) would be used. Additionally, 75 percent of plants (not including turf) would be California-native, Mediterranean or climate-adapted plants. No more than 25 percent of the total landscape area would be irrigated turf (not including sport and multiple use fields), and irrigation practices would be weather-based and include moisture and/or rain sensor shutoff mechanisms.

Refer to the Conceptual Landscape Design in Appendix B for the landscape design and plant palette.

3.4.8 Off-site Improvements

As previously noted, proposed off-site improvements evaluated in this SEIR include adjacent or nearby portions of Hickory Street, 'A' Avenue and Enterprise Drive, as well as a replacement culvert near the southwestern site corner (refer to Figure 3-3). Specifically, Hickory Street would be improved in support of developments proposed to be implemented under the TOD Specific Plan. Improvements would include the addition of travel lanes, curb and gutter, sidewalks and landscaping. All improvements would remain within the existing 80-foot wide ROW that is partially located outside of the project site. The project applicant may be

responsible for constructing improvements within the existing ROW for the northernmost approximately 715 linear feet (i.e., the approximately 1.6-acre Off-site Improvement Area within the Hickory Street ROW). The remainder of the roadway may be constructed by the Torian Project which is currently permitted and under construction; however, if the proposed project is constructed before the Torian Project, the project applicant may construct full-width improvements along the shared portion of Hickory Street adjacent to the Torian project site.

The project site could also be accessed via the future extension of 'A' Avenue between Hickory and Willow streets. As noted above in Section 3.4.2, an approximately 300-foot portion of 'A' Avenue extending east from Hickory Street would be constructed as part of the proposed project (refer to Figure 3-3), due to the current timing of the Torian Project (which includes the noted segment of 'A' Avenue). The noted off-site portion of 'A' Avenue would include a 56-foot wide ROW, with specific improvements assumed to be similar to those proposed for the on-site portions of 'A' Avenue (and this assumption to be verified during final design). Specifically, these improvements would include two 10-foot wide travel lanes, two 8-foot wide parking lanes, two 5-foot-wide sidewalks, and two 5-foot wide landscape corridors (refer to TM-4 in Appendix B).

Based on the current timing of the Torian and SHH projects, the proposed project would also implement improvements to Enterprise Drive within an approximately two-acre area located north and east of the site (with Enterprise Drive to provide site access via Hickory Street, refer to Figure 3-3). Specifically, proposed improvements to Enterprise Drive would be located within a proposed 90-foot wide ROW corridor extending approximately 1,000 feet between Hickory and Willow streets (refer to Figure 3-3). These improvements would include construction of a 12-foot wide median curb in applicable portions of the noted roadway segment, as well as installation of a 5-foot wide sidewalk and an adjacent 6-foot wide landscape corridor along the southern edge of the proposed Enterprise Drive ROW (with all of the noted improvements except the proposed 5-foot wide sidewalk located within the existing 80-foot wide Enterprise Drive ROW). Beyond circulation improvements, the project applicant would make modifications to the North-South Drainage Ditch at a location off the southwest corner of the project site. Specifically, these modifications would entail replacing an existing culvert extending beneath the access road along the southern project site boundary, with a total disturbance area of approximately 0.1 acre (including approximately 0.05 acre located off-site). The proposed culvert replacement would involve the following activities: (1) installation of a temporary sheet pile barrier near the southern (downstream) edge of the existing access road/culvert on the southern site boundary; (2) excavation and removal of the existing culvert, as well as an existing sheet pile barrier near the northern (upstream) edge of the existing access road/culvert; (3) installation of a new 18-foot long, 8-foot wide and 4-foot deep single-box culvert, along with associated head walls and vehicle guard rails; (4) removal of the temporary sheet pile; and (5) recontouring of graded areas and restoration of impacted wetlands (as described in Section 4.3, *Biological Resources*).

3.5 CUT AND FILL QUANTITIES/IMPERVIOUS SURFACES

Approximately 250,000 cubic yards of soil would be cut and used on site as fill for grading and construction of the building pads, along with an additional 100,000 cubic yards of soil that would be imported to the project site. A total of 1,048,378 sf of impervious area would be constructed on the project site, consisting of building foundations and paved areas. A total of 3,000 sf of

existing structures and 2,000 sf of existing concrete pavement would be demolished and removed from the project site.

3.6 CONSTRUCTION AND PHASING

Demolition and grading activities are anticipated to begin in September 2016 and are expected to last for four months. Infrastructure construction activities including utilities and construction of the building pads are anticipated to begin in the Spring or Summer of 2017, and are expected to last for six months. Site development activities would immediately follow, with all development construction activities to be completed within approximately four years or by October 2020.

3.7 ENVIRONMENTAL REMEDIATION AND MITIGATION

The project site has a long history of hazardous materials contamination associated with previous industrial uses, as described in Section 4.7, *Hazards and Hazardous Materials*. The site has been subject to several remediation and clean-up actions that have been completed under State supervision. In 2001, the previous owner entered into a voluntary cleanup agreement with the San Francisco Bay Regional Water Quality Control Board (RWQCB) and several inches of topsoil containing lead and asphaltic skeet targets containing polycyclic aromatic hydrocarbons (PAHs) were excavated and disposed of off site. The areas were left to recover naturally and the RWQCB certified case closure in 2004.

Based on their Phase I Environmental Site Assessment findings, Haley & Aldrich (2014a) identified some recognized environmental conditions (RECs) that warranted further investigation. As detailed in the Phase II Environmental Site Assessment (Hayley & Aldrich 2014b), portions of the site contain some elevated levels of hazardous materials that must be remediated prior to site development. Portions of the former Newark Sportsman's Club (NSC) Area contain lead and PAHs. Portions of the Pistol Range contain cobalt, and the E-1 Drainage Ditch contains arsenic, lead and total petroleum hydrocarbons (TPH). Those affected areas (and potentially other locations, refer to Section 4.7 for additional information) require additional remediation, including efforts such as excavation and disposal of shallow soil prior to project construction (Hayley & Aldrich 2014b).

The bedrock outcrop located in the southeastern portion of the site is comprised of serpentinite bedrock that contains chrysotile, a form of naturally occurring asbestos. The bedrock outcrop would either be removed to a safe location prior to site development or buried and covered with the appropriate amount of topsoil.

3.8 REQUIRED APPROVALS

A listing and brief description of the regulatory permits and approvals required to implement the proposed project is provided below. This environmental document addresses project-related environmental impacts as appropriate to support actions associated with the following discretionary actions and approvals:

- Tentative Parcel Map
- Planned Development Permit

- Tree Removal Permit
- Clean Water Act (CWA) Section 404 Permit
- CWA Section 401 Water Quality Certification
- CWA Section 402 (National Pollutant Discharge Elimination System [NPDES] Permit)
- California Department of Fish and Wildlife (CDFW) Section 1602 Streambed Alteration Agreement

3.8.1 City of Newark

The City has the following discretionary powers related to the proposed project:

- **Certification of the environmental document:** The City of Newark is the lead agency as defined by CEQA, and the City Council has authority to determine whether the environmental document is adequate under CEQA and the State CEQA Guidelines.
- **Approve project:** The Newark City Council will consider approval of the project and all the related City entitlements described above, including a Tentative Parcel Map, Planned Development Permit and Tree Removal Permit.

3.8.2 Agencies

Because the project would affect wetlands or other waters of the U.S./State, the project applicant would need to obtain a Fish and Game Code Section 1602 Lake or Streambed Alteration Agreement issued by CDFW, a CWA Section 404 Permit issued by the U.S. Army Corps of Engineers (USACE), and a CWA Section 401 Water Quality Certification issued by the San Francisco Bay RWQCB. The following agencies would be consulted regarding potential environmental issues associated with the proposed project:

- U.S. Fish and Wildlife Service (USFWS) regarding special-status species that may be affected by the project.
- CDFW regarding special-status species with the potential to occur on site, and regarding impacts to waters of the State requiring a 1602 Streambed Alteration Agreement.
- USACE regarding impacts to waters of the U.S. subject to Section 404 of the CWA.
- San Francisco Bay RWQCB regarding impacts to waters of the State subject to Section 401 and 402 of the CWA, and the California Water Code, and regarding appropriate remediation measures and work plans for hazardous materials present in the site.

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Section 4.0

ENVIRONMENTAL ANALYSIS

4.1 AESTHETICS

This section describes existing aesthetics and visual resource conditions within the project area and applicable off-site areas, identifies pertinent regulatory standards, and evaluates potential impacts and associated mitigation measures related to project implementation within the context of the Dumbarton TOD Specific Plan.

A Visual Impact Assessment (VIA) Memorandum was prepared for the proposed project by HELIX Environmental Planning, Inc. (HELIX Environmental Planning, Inc. [HELIX] 2015a). The VIA provides a project-level analysis of the scenic resource impacts associated with the proposed project and takes into account information from other applicable sources including the Dumbarton TOD Specific Plan EIR (RBF Consulting [RBF] 2011) and the City of Newark (City) General Plan (2013a). The referenced VIA is summarized below along with other applicable information, with the complete technical memo included in Appendix C of this SEIR.

4.1.1 Environmental Setting

Existing Visual Character

The approximately 205-acre Dumbarton TOD Specific Plan area is located at the western edge of the City and is generally bounded by railroad tracks to the north/northwest, solar salt production facilities located adjacent to San Francisco Bay to the south and west, and Willow Street and industrial and residential uses to the east. The approximately 26-acre Plummer Creek Mitigation Bank is located directly south of the Specific Plan area. The Gateway Station West project site is situated in the southwestern portion of the Specific Plan area (refer to Figure 3-2, *Dumbarton TOD Specific Plan Area).*

The proposed project site is disturbed and primarily vacant with the exception of a police dog training facility and pistol firing range operated by the City of Newark, located in the southeastern section of the site. In general, the project site's existing visual character is primarily large, open, expansive, weedy fields with some scattered marsh and seasonal wetland vegetation (Figure 4.1-1, *Site Photo Locations,* and Figure 4.1-2, *Site Photos*). There are a few existing eucalyptus trees on site at the dog training facility and a few scattered boulders on site. However, neither of these features adds any substantial aesthetic value.

The project site is generally level with a slight grade to the west and, except for a distinct rock outcrop and several fill stockpiles as described below, exhibits elevations of approximately 8 to 9 feet above mean sea level (amsl). The rock outcrop reaches to 26 feet amsl and the two hills extend to maximum elevations of approximately 35 and 30 feet amsl, respectively. Near the top of the northern hill there is an open graded area with views to the Don Edwards San Francisco Bay National Wildlife Refuge (NWR) in the distance as shown in the site photos. From the highest point of the northern hill there are views to the west of the solar salt ponds as well.

Scenic Vistas

A scenic vista is a view of natural environmental, historic and/or architectural features possessing visual and aesthetic qualities of value to the community. The term "vista" generally

implies an expansive view, usually from an elevated point or open area. There are no designated scenic vistas in the vicinity of the Specific Plan area (RBF 2011).

Scenic Highways and Roadways

According to the California State Scenic Highway Program, there are no State-designated scenic highways within or adjacent to the City (RBF 2011). None of the local roadways in the vicinity of the Specific Plan area are considered major gateways or pathways of visual significance (City 2013a).

Light and Glare

As indicated in the Dumbarton TOD Specific Plan EIR, lighting within the Specific Plan area is fairly minimal and consistent with the type of nighttime illumination generated by the surrounding urban development in the project vicinity.

4.1.2 Regulatory Setting

Local

General Plan Policies

The Land Use Element of the City General Plan sets forth several goals, policies and actions with respect to aesthetic and visual resources within the Dumbarton TOD Specific Plan area.

GOAL LU-6 Develop a sustainable, transit oriented development (TOD) comprised of residential, retail, office, park, and open space uses around the site of the planned Dumbarton Rail station on Newark's west side.

Policy LU-6.2: Dumbarton TOD Design Guidelines. Apply design guidelines to future development at Dumbarton TOD which support the area's development as a "village" comprised of traditional city blocks, vernacular architectural styles, and a mix of housing types.

Policy LU-6.5: Dumbarton TOD Landscaping and Streetscape. Use landscaping and tree planting to enhance the character of the Dumbarton TOD neighborhoods, define the community's edges, provide landmarks and focal points, make streets more pleasant for walking, and create a stronger sense of place. The landscape should reflect climate and soil conditions, as well as the desire to conserve water and create visual appeal.

Policy LU-6.6: Dumbarton TOD Lighting. Use lighting and illumination which compliments architectural styles, reduces glare and over-lighting impacts, ensures pedestrian safety, and highlights special design elements within the community.

Action LU-6.A. *Dumbarton TOD Specific Plan Implementation*. Use the Dumbarton TOD Specific Plan as the framework for the area's development. More detailed

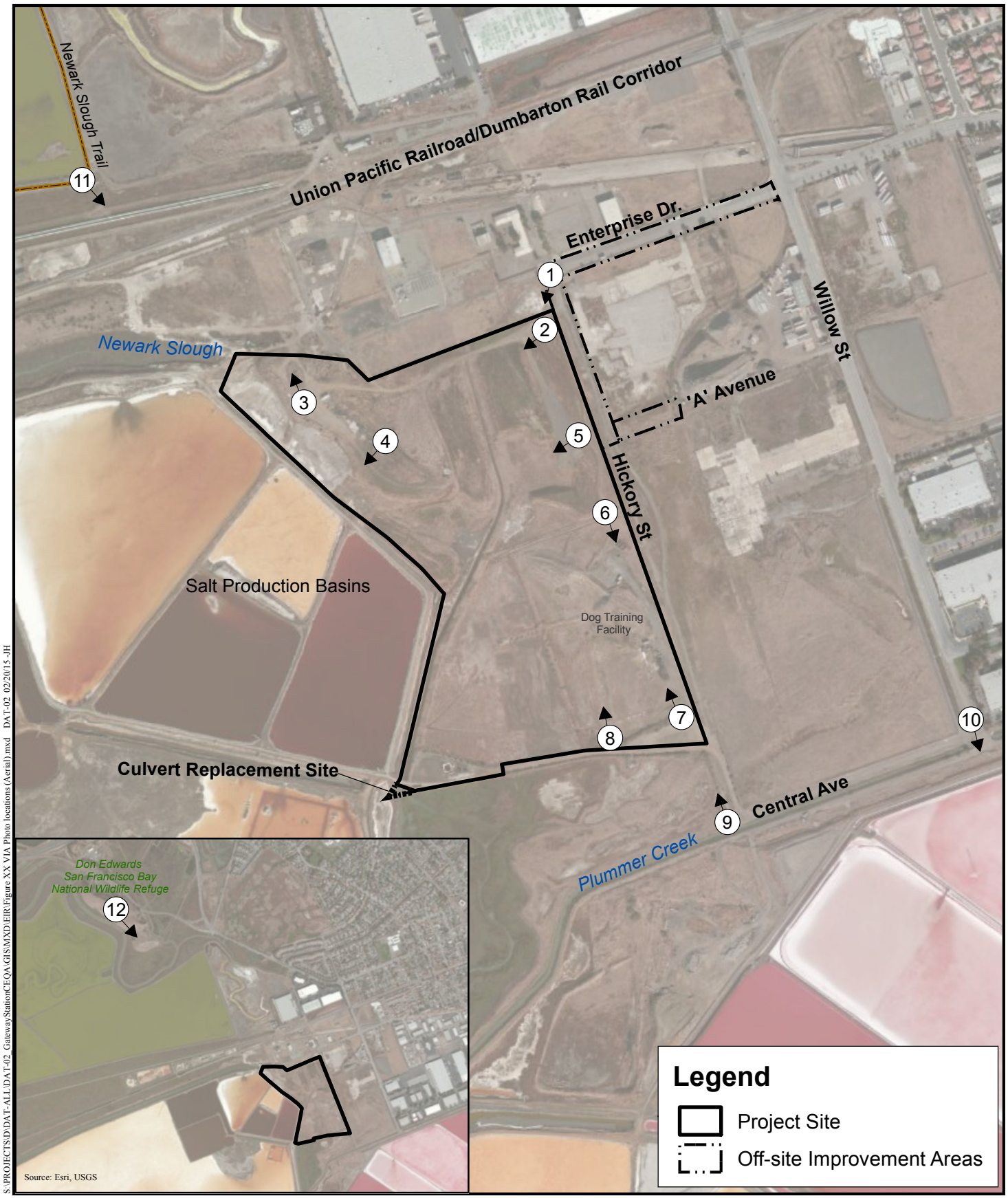

Photo locations noted in this figure correspond to all the photos contained in the Visual Impact Memo completed by HELIX (2015) for this project.

Site Photo Locations

GATEWAY STATION WEST

HELIX Environmental Planning

N 0 600 Feet

Figure 4.1-1

Looking southeast towards hill

Looking southeast towards salt basins

Near Hickory Street looking southwest

Near Hickory Street looking south

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Site Photos

GATEWAY STATION WEST

Figure 4.1-2

HELIX Environmental Planning

plans will be required as specific applications for subdivision and development are processed, consistent with the provisions of the Specific Plan.

Action LU-6.B. *Dumbarton TOD Form Based Codes*. Apply form-based codes in the development of the Dumbarton TOD neighborhood, in order to achieve more pedestrian-oriented building forms and greater mixing of land uses.

The policy direction provided by the General Plan is supplemented by the Specific Plan for the area adopted in 2011, as described below.

Dumbarton TOD Specific Plan Site and Architecture Design Guidelines

The Dumbarton TOD Specific Plan provides a comprehensive policy and regulatory framework to guide future development and redevelopment within the Specific Plan area. The Dumbarton TOD Specific Plan Site and Architecture Design Guidelines illustrate the desired character of the built environment through site, building and landscape design. The Guidelines are design suggestions intended to help the City and developers achieve a mixed-use community with a consistent quality and distinct sense of place. The Guidelines include recommendations for a variety of architectural styles, building types, building forms, roof pitches, materials, and architectural details. Recommendations for multi-family residential uses also address site design and landscaping, as well as the relationship between buildings. The Dumbarton TOD Specific Plan also includes Design Guidelines for parks and open space (pedestrian and bicycle facilities, public streets, public open space, parks, terraces, courtyards, and the passive and active areas of the Specific Plan area), as well as circulation (streets, walkways, and trails).

Municipal Code

Other than the City of Newark General Plan and the Dumbarton TOD Specific Plan, the City's Municipal Code is the primary regulatory structure that shapes the form and character of physical development within the City. Standards and regulations established in the City's Municipal Code are used to implement the goals and policies of the General Plan. Two primary sections of the City's Municipal Code contain regulations to maintain the aesthetic quality and character of the City: Subdivision Regulations and Zoning Regulations.

4.1.3 Environmental Analysis

Significance Thresholds

The following significance thresholds derived from the Dumbarton TOD Specific Plan EIR and Appendix G of the State CEQA Guidelines are used in the evaluation of potential impacts from implementation of the proposed project.

- Have a substantial adverse impact on a scenic vista;

Based on analysis in the Dumbarton TOD Specific Plan EIR, impacts associated with the following thresholds were determined not to be significant for the Specific Plan (including the

proposed project site), and no further related analysis is warranted under the Impact Analysis heading for reasons provided below.

- Substantially degrade the existing visual character or quality of the site and surroundings;
- Substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway; and/or
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Specifically, these thresholds would not be triggered by the proposed project based on the following considerations: (1) the project design would comply with the Site and Architecture Design Guidelines contained in the Specific Plan to prevent degradation of the site character; (2) there is no State-designated scenic highway within or adjacent to the project area and none of the local roadways are considered major gateways or pathways of visual significance under the City's General Plan; and (3) the project would be required to comply with the lighting standards in Site and Architecture Design Guidelines such that it would not introduce substantial light and glare.

Summary of Findings from the Dumbarton TOD Specific Plan EIR

Visual resources (i.e., aesthetics) are discussed in Chapter 4.1 of the Dumbarton TOD Specific Plan EIR (RBF 2011). The Specific Plan EIR concluded that construction of the project would alter the existing views by replacing primarily vacant, disturbed land with urban development, but the development would be consistent with the character of the surrounding development. Further, the Specific Plan contains Site and Architecture Design Guidelines intended to achieve a mixed-use community with a consistent quality and distinct sense of space. Development in the Specific Plan area would be required to comply with the development regulations and design guidelines contained in the Specific Plan to ensure that the development is a quality design and is consistent with the City General Plan. Less than significant impacts relating to visual resources/ aesthetics were identified in the Specific Plan EIR, and therefore no mitigation measures were required.

Impact Analysis

The methodology used in the VIA generally follows the guidelines outlined in the publication *Visual Impact Assessment for Highway Projects* Federal Highway Administration (FHWA 1981) and current Caltrans guidelines for visual impact assessment (Caltrans 2010).

Scenic Vistas

Although the project site and associated off-site facilities are in a disturbed condition within a former industrial area, and the project would be required to comply with the Site and Architecture Design Guidelines in the Specific Plan, the property is immediately adjacent to the existing Plummer Creek Wetland Mitigation Bank and in the vicinity of the San Francisco Bay Trail (Bay Trail), the NWR, the Newark Slough, and farther afield, San Francisco Bay. The Dumbarton TOD Specific Plan EIR did not specifically address the fact that project features would potentially be visible from key observation points associated with these nearby existing

and proposed scenic and recreational resources, in particular, the proposed candidate addition to the San Francisco Bay Trail and the existing Newark Slough Trail at the San Francisco Bay NWR. During the completion of the project VIA, HELIX staff visited the project site and the surrounding area to evaluate the project's effects upon these scenic resources.

Views from the Newark Slough Trail would have project features visible as a background to views of the slough but would not adversely affect the quality of the scenic resource. Additionally, the project would not block vistas or views nor substantially degrade the quality of existing views within the San Francisco Bay NWR due to the intervening distances and existing landscape. However, as a result of its proximity to the proposed candidate addition to the Bay Trail, an evaluation of the project impacts to the Bay Trail was undertaken by the VIA, as summarized below.

The Gateway Station West Project design would construct a candidate section of the Bay Trail that would eventually connect to other trail sections within the Don Edwards San Francisco Bay NWR and the Plummer Creek Mitigation Bank. A 20-foot wide easement along the western and southern boundaries of the project would contain an 8-foot wide, multi-purpose paved section of the candidate Bay Trail, with two 2-foot wide shoulders and an additional 4-foot wide landscaped buffer on either side of the trail (refer to the project landscape plans in Appendix B). Benches would be provided approximately every 200 linear feet along the candidate Bay Trail.

In addition, the project includes three types of fencing/barriers, with the proposed locations shown on Figure 3-5, *Site Plan*, and descriptions as follow. The approximately 500-foot-long easternmost section along the southern project boundary (Segment A) would be a 4-foot- high masonry wall topped with a 4-foot high (8-foot total height) black colored woven wire mesh (not chain link) in a square or rectangular pattern. The woven wire spacing would be no tighter than 3 inches. The 2-inch square metal tubing posts would be spaced 8 to 10 feet on center, and topped with a continuous 2-inch square metal tubing rail. Fence posts and rails would also be black colored. The entire western section of the Project boundary adjacent to the solar salt ponds (Segments B through D) would consist of 6-foot high woven wire mesh panels in a square or rectangular pattern, with 3-inch minimum spacing for the top 3 feet and 0.5-inch mesh spacing on the lower 3 feet. Two-inch diameter posts would be spaced approximated 8 to 10 feet on center. The top rail and mid rail would also be 2-inch diameter. All woven wire mesh panels, posts and railings would be black colored. The approximately 1,500-foot long section of the proposed Bay Trail inside the Project boundary (Segment E) would have a 4-foot high precast concrete "split rail" fence along the eastern and southern sides. The split rail fencing would have three rails and posts spaced 8 feet on center. All posts and rail components would be textured to simulate wood grain and sand integral color. All three types of described fencing/barriers would allow visual access above a 4-foot viewer height.

In general, the proposed candidate addition to the San Francisco Bay Trail section would be a positive aesthetic feature with the landscape improvements in the buffer areas that include trees. The proposed landscape improvements would consistent with the City General Plan goals and policies for aesthetic resources, as well as the Dumbarton TOD Specific Plan Design Guidelines. Accordingly, while the overall character of the site would change from primarily open and sparsely vegetated to a more urban and developed character, the project design, combined with the planned landscape improvements, would not substantially degrade the visual character of the

site or the surroundings. Based on the preceding analysis, less than significant impacts to scenic vistas would result from implementation of the proposed project.

4.1.4 Level of Significance Before Mitigation

Compliance with the Site and Architectural Design Guidelines, policies of the General Plan and regulations in the Municipal Code would ensure that the project design would result in less than significant impacts to scenic vistas.

4.1.5 Mitigation Measures

No significant impacts were identified in the Dumbarton TOD Specific Plan EIR and no project-specific impacts are identified; therefore, no mitigation measures are required.

4.1.6 Level of Significance After Mitigation

Less than significant impacts are identified; therefore, no mitigation measures are required.

4.2 AIR QUALITY

This section evaluates the potential short- and long-term air quality impacts that would result from construction and operations of the proposed project. Information in this section is based primarily on the Bay Area Air Quality Management District (BAAQMD) CEQA Air Quality Guidelines (June 2010), the Bay Area 2010 Clean Air Plan (September 2010), Air Quality Data (California Air Resources Board [CARB] 2007 through 2009), the Dumbarton TOD Specific Plan and associated EIR (RBF 2011), the project's Air Quality and Greenhouse Gas Emissions Technical Report (HELIX 2015b) and the Transportation Evaluation (and associated update memo) for the proposed project (Fehr & Peers 2014, 2015). Refer to Appendix D, Air Quality and Greenhouse Gas Emissions Technical Report, for the assumptions used in this analysis.

4.2.1 Environmental Setting

The CARB divides the State into 15 air basins that share similar meteorological and topographical features. The project site is located within the San Francisco Bay Area Air Basin (Basin) that comprises all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo and Santa Clara counties, the southern portion of Sonoma County, and the southwestern portion of Solano County. Air quality in this area is determined by natural factors such as topography, meteorology and climate, in addition to air pollution sources and ambient conditions (RBF 2011).

The City is located within the Southwestern Alameda County climatological subregion of the Basin. This subregion encompasses the southeast side of the San Francisco Bay, from Dublin Canyon to north of the City of Milpitas. A majority of the subregion is flat topographically and is bordered on the east by the East Bay hills and on the west by the San Francisco Bay. The Basin is characterized by complex terrain, consisting of coastal mountain ranges, inland valleys and bays, which distort normal wind flow patterns. The gap in the western coast range is known as the Golden Gate, and the gap in the eastern coast range is the Carquinez Strait. These gaps allow air to pass into and out of the Basin and the Central Valley.

Climate and Meteorology

The climate of the proposed project site, and all of the San Francisco Bay Area, is predominated by a semi-permanent, subtropical high-pressure cell over the Pacific Ocean. This cell influences prevailing winds and results in condensation and the presence of fog and stratus clouds during the summer, and stormy conditions with moderate to strong winds, as well as periods of stagnation with very light winds during the winter. The high pressure cell also creates two types of temperature inversions that may act to degrade local air quality.

Elevation inversions occur during the warmer months as ascending air associated with the Pacific high pressure cell comes into contact with warmer air up the coastal hills. The boundary between the two layers of air creates a temperature inversion that traps pollutants. The other type of inversion, a radiation inversion, develops on winter nights when air near the ground cools by heat radiation and air aloft remain ns warm. The shallow inversion layer formed between these two air masses can also trap pollutants and as the pollutants become more concentrated in the atmosphe*re,* photochemical reactions produce ozone, commonly known as smog.

Criteria Pollutants

Criteria pollutants are defined by state and federal law as a risk to the health and welfare of the general public. In general, air pollutants include the following compounds:

- Ozone (O_3)
- Reactive Organic Gases (ROGs) or Volatile Organic Compounds (VOCs)
- Carbon Monoxide (CO)
- Nitrogen Dioxide (NO_2)
- Respirable Particulate Matter and Fine Particulate Matter (PM_{10} and $PM_{2.5}$)
- Sulfur dioxide (SO_2)
- Lead (Pb)

The following specific descriptions of health effects for each of the air pollutants potentially associated with project construction and operations are based on information provided by the U.S. Environmental Protection Agency ([USEPA] 2007) and CARB (2009).

Ozone. O_3 is considered a photochemical oxidant, which is a chemical that is formed when VOCs and NO_X, both by-products of fuel combustion, react in the presence of ultraviolet light. O_3 is considered a respiratory irritant and prolonged exposure can reduce lung function, aggravate asthma, and increase susceptibility to respiratory infections. Children and those with existing respiratory diseases are at greatest risk from exposure to ozone. The Air Basin is designated nonattainment of the 1-hour California ambient air quality standards (AAQS) and 8-hour California and National AAQS for O_3.

Reactive Organic Gases. ROGs (also known as VOCs) are compounds composed primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of ROGs. Other sources of ROGs include evaporative emissions from paints and solvents, the application of asphalt paving, and the use of household consumer products such as aerosols. Adverse effects on human health are not caused directly by ROGs, but rather by reactions of ROGs to form secondary pollutants such as O_3. There are no AAQS established for ROGs, however, because they contribute to the formation of O_3, the BAAQMD has established a significance threshold for this pollutant.

Carbon Monoxide. CO is a product of fuel combustion, and the main source of CO in the Basin is from motor vehicle exhaust. CO is an odorless, colorless gas that affects red blood cells in the body by binding to hemoglobin and reducing the amount of oxygen that can be carried to the body's organs and tissues. CO can cause health effects to those with cardiovascular disease and can also affect mental alertness and vision. The Basin is designated under the California and National AAQS as being in attainment of CO criteria levels.

Nitrogen Dioxide. NO_2 is also a by-product of fuel combustion and is formed both directly as a product of combustion and in the atmosphere through the reaction of nitrogen oxide (NO) with oxygen. NO_2 is a respiratory irritant and may affect those with existing respiratory illness,

including asthma. NO_2 can also increase the risk of respiratory illness. The Basin is designated as an attainment area for NO_2 under the National AAQS and California AAQS.

Respirable Particulate Matter and Fine Particulate Matter. Respirable particulate matter, or PM_{10}, refers to particulate matter with an aerodynamic diameter of 10 microns or less. Fine particulate matter, or $PM_{2.5}$, refers to particulate matter with an aerodynamic diameter of 2.5 microns or less. Particulate matter in these size ranges have been determined to have the potential to lodge in the lungs and contribute to respiratory problems. PM_{10} and $PM_{2.5}$ arise from a variety of sources, including road dust, diesel exhaust, fuel combustion, tire and brake wear, construction operations, and windblown dust. In the Basin, most particulate matter is caused by combustion, factories, construction, grading, demolition, agricultural activities, and motor vehicles. Motor vehicles are currently responsible for about half of particulates in the Basin. Wood burning in fireplaces and stoves is another large source of fine particulates. PM_{10} and $PM_{2.5}$ can increase susceptibility to respiratory infections and can aggravate existing respiratory diseases such as asthma and chronic bronchitis. $PM_{2.5}$ is considered to have the potential to lodge deeper in the lungs. Diesel particulate matter (DPM) is classified a carcinogen by CARB. The Basin is designated as being nonattainment under the California AAQS for PM_{10} and also as being nonattainment under both the California and National AAQS for $PM_{2.5}$.

Sulfur dioxide. SO_2 is a colorless, reactive gas that is produced from the burning of sulfur-containing fuels such as coal and oil, and by other industrial processes. Generally, the highest concentrations of SO_2 are found near large industrial sources. SO_2 is a respiratory irritant that can cause narrowing of the airways leading to wheezing and shortness of breath. Long-term exposure to SO_2 can cause respiratory illness and aggravate existing cardiovascular disease. The Basin is designated as an attainment area for SO_2 under the California and National AAQS.

Lead. Lead in the atmosphere occurs as particulate matter. With the phase-out of leaded gasoline, large manufacturing facilities are the sources of the largest amounts of lead emissions. Lead has the potential to cause gastrointestinal, central nervous system, kidney and blood diseases upon prolonged exposure. Lead is also classified as a probable human carcinogen. The Basin is designated as being in attainment of the California and National AAQS for lead. Because emissions of lead are found only in projects that are permitted by BAAQMD, lead is not an air quality of concern for the proposed project.

Toxic Air Contaminants

Toxic Air Contaminants (TACs) are a category of air pollutants that have been shown to have an impact on human health but are not classified as criteria pollutants. Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. Air toxics are generated by a number of sources, including stationary sources such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources such as automobiles; and area sources such as farms, landfills, construction sites, and residential areas. Adverse health effects of toxic air contaminants can be carcinogenic (cancer-causing), short-term (acute) noncarcinogenic, and long-term (chronic) noncarcinogenic. Public exposure to TACs is a significant environmental health issue in California.

4.2.2 Regulatory Setting

The AAQS have been adopted at state and federal levels for criteria air pollutants. In addition, both the state and federal governments regulate the release TACs. The City is in the Basin and is subject to the rules and regulations imposed by the BAAQMD, as well as the California AAQS adopted by the CARB and National AAQS adopted by the USEPA. Federal, state, regional, and local laws, regulations, plans, and guidelines that are applicable to the project are summarized below.

Federal

Federal Clean Air Act

The Clean Air Act (CAA) of 1970 and the CAA Amendments of 1971 required the USEPA to establish NAAQS. States retain the option to adopt more stringent standards or to include other specific pollutants. In 2007, the U.S. Supreme Court found that CO_2 is an air pollutant covered by the CAA; however, no NAAQS have been established for CO_2. Current NAAQS are listed in Table 4.2-1, *National and California Ambient Air Quality Standards*.

Table 4.2-1
NATIONAL AND CALIFORNIA AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone	1-Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	-	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.070 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)		
Respirable Particulate Matter (PM_{10})	24-Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		-		
Fine Particulate Matter ($PM_{2.5}$)[8]	24-Hour	-	-	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12 µg/m^3		
Carbon Monoxide (CO)	1-Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3	-	Non-Dispersive Infrared Photometry (NDIR)
	8-Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	-	
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		-	-	-
Nitrogen Dioxide (NO_2)[9]	1-Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	0.100 ppm (188 µg/m^3)	-	Gas Phase Chemilumi-nescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	

Table 4.2-1 (cont.)
NATIONAL AND CALIFORNIA AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Sulfur Dioxide (SO_2)[10]	1-Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	-	Ultraviolet Fluorescence; Spectro-photometry (Pararo-saniline Method
	3-Hour	-		-	0.5 ppm (1300 µg/m^3)	
	24-Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (365 µg/m^3) (for certain areas)[9]	-	
	Annual Arithmetic Mean	-		0.030 ppm (80 µg/m^3) (for certain areas)[9]	-	
Lead[11,12]	30-Day Average	1.5 µg/m^3	Atomic Absorption	-	-	- High Volume Sampler and Atomic Absorption
	Calendar Quarter	-		1.5 µg/m^3	Same as Primary Standard	
	Rolling 3-Month Average	-		0.15 µg/m^3		
Visibility Reducing Particles[13]	8-Hour	See footnote 12	Beta Attenuation and Transmittance through Filter Tape	**No Federal Standards**		
Sulfates	24-Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[11]	24-Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

Source: CARB 2013b

Notes: ppm = parts per million; µg/m^3 = micrograms per cubic meter; mg/m^3 = milligrams per cubic meter

[1] California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter—PM_{10}, $PM_{2.5}$, and visibility reducing particles, are values that are not to be exceeded.

[2] National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year.

[3] Concentration expressed first in units in which it was promulgated.

[4] Any equivalent procedure which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.

[5] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

[6] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[7] Reference method as described by the USEPA.

[8] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3.

[9] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb).

[10] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked.

[11] The CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. .

[12] The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. .

[13] In 1989, the CARB converted both the general statewide 10-mile visibility standards and the Lake Tahoe 20-mile visibility standard to instrumental equivalents.

The federal standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those "sensitive receptors" most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

The USEPA has classified air basins (or portions thereof) as being in "attainment," "nonattainment," or "unclassified" for each criteria air pollutant, based on whether or not the NAAQS have been achieved. If an area is designated unclassified, it is because inadequate air quality data were available as a basis for a nonattainment or attainment designation. Table 4.2-2, *Bay Area Air Basin Attainment Status*, lists the federal attainment status of the Basin for the criteria pollutants. The USEPA classifies the Basin as in attainment for CO, NO_2, SO_2, and lead; unclassified for PM_{10}; and in nonattainment for O_3 and $PM_{2.5}$ with respect to National AAQS.

Table 4.2-2
BAY AREA AIR BASIN ATTAINMENT STATUS

Criteria Pollutant	Federal Designation	State Designation
Ozone (1-hour)	Nonattainment	Nonattainment
Ozone (8-hour)	Classification revoked (2005)	Nonattainment (serious)
CO	Attainment	Attainment
PM_{10}	Unclassified	Nonattainment
$PM_{2.5}$	Nonattainment	Nonattainment
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment
Lead	Attainment	Attainment

Source: CARB, 2014b. Area Designations: Activities and Maps, http://www.arb.ca.gov/desig/adm/adm.htm.

The CAA (and its subsequent amendments) requires each state to prepare an air quality control plan referred to as the State Implementation Plan (SIP). The CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The SIP is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The USEPA has the responsibility to review all SIPs to determine whether they conform to the requirements of the CAA.

State

California Clean Air Act

The federal CAA allows states to adopt AAQS and other regulations provided that they are at least as stringent as federal standards. The CARB, a part of the California EPA (CalEPA) is responsible for the coordination and administration of both federal and state air pollution control programs within California, including setting the California CAAQS. The CARB also conducts research, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. The CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. The CARB also has primary responsibility for the development of California's SIP, for which it works closely with the federal government and the local air districts.

In addition to primary and secondary AAQS, the state has established a set of episode criteria for O_3, CO, NO_2, SO_2, and PM. These criteria refer to episode levels representing periods of short-term exposure to air pollutants that actually threaten public health. Table 4.2-2 lists the state attainment status of the Basin for the criteria pollutants. The Basin is currently designated a nonattainment area for ozone, $PM_{2.5}$, and PM_{10} with respect to California AAQS.

Toxic Air Contaminants

California's air toxics control program began in 1983 with the passage of the Toxic Air Contaminant Identification and Control Act, better known as Assembly Bill (AB) 1807 or the Tanner Bill. When a compound becomes listed as a TAC under the Tanner process, the CARB normally establishes minimum statewide emission control measures to be adopted by local air pollution control districts (APCDs). Later legislative amendments (AB 2728) required the CARB to incorporate all 189 federal hazardous air pollutants (HAPs) into the state list of TACs.

Supplementing the Tanner process, AB 2588, the Air Toxics "Hot Spots" Information and Assessment Act of 1987, currently regulates over 600 air compounds, including all of the Tanner-designated TACs. Under AB 2588, specified facilities must quantify emissions of regulated air toxics and report them to the local APCD. If the APCD determines that a potentially significant public health risk is posed by a given facility, the facility is required to perform a health risk assessment and notify the public in the affected area if the calculated risks exceed specified criteria.

In 1998 CARB formally identified PM emitted in both gaseous and particulate forms by diesel-fueled engines as a TAC. The particles emitted by diesel engines are coated with chemicals, many of which have been identified by the USEPA as HAPs and by CARB as TACs. CARB's Scientific Advisory Committee has recommended a unit risk factor (URF) of 300 in 1 million over a 70-year exposure period for diesel particulate. In 2000, the CARB approved the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles* or Diesel Risk Reduction Plan (CARB 2000). The Diesel Risk Reduction Plan outlined a comprehensive and ambitious program that included the development of numerous new control measures over the next several years aimed at substantially reducing emissions from new and existing on-road vehicles (e.g., heavy-duty trucks and buses), off-road equipment (e.g., graders, tractors, forklifts, sweepers, and boats), portable equipment (e.g., pumps), and stationary engines (e.g., stand-by power generators). These requirements are now in force on a state-wide basis.

Local

BAAQMD CEQA Air Quality Guidelines

In June 2010, the BAAQMD adopted an update to the 1999 BAAQMD CEQA Guidelines to assist local agencies in evaluating air quality and greenhouse gas (GHG) impacts of development proposals and other regulatory plans proposed in the Basin. In 2012, the District posted another update to their CEQA Guidelines on their website. In early 2012, an Alameda County Superior Court ruled that the BAAQMD's updated guidelines be set aside on the grounds that the District did not attempt to evaluate the potential environmental effects of the updated guidelines before their adoption. In *California Building Industry Association v. BAAQMD* (August 13, 2013, Case

No. A136212) Cal. App. 4th, the First District Court of Appeal reversed a trial court's decision striking down BAAQMD's 2012 CEQA thresholds of significance for GHG emissions. Although the Court of Appeal's decision does provide the means by which BAAQMD may ultimately reinstate the GHG emissions thresholds, any such action by the District is still uncertain; BAAQMD will revisit the issue and reinstate the thresholds or adopt other standards altogether (Morrison & Foerster 2013). For this analysis, the BAAQMD's 2010 thresholds of significance from the State CEQA Guidelines were employed to determine the project's contribution to air quality and GHGs, consistent with the Dumbarton TOD Specific Plan EIR.

BAAQMD 2010 Bay Area Clean Air Plan

The BAAQMD is the agency responsible for assuring that the National and California AAQS are attained and maintained in the Basin. The BAAQMD regulates most air pollutant sources, except for motor vehicles, marine vessels, aircrafts, and agricultural equipment, which are regulated by the CARB or the USEPA. State and local government projects, as well as projects proposed by the private sector, are subject to BAAQMD requirements if the sources are regulated by the BAAQMD. Additionally, the BAAQMD, along with the CARB, maintains and operates ambient air quality monitoring stations at numerous locations throughout the Basin. These stations are used to measure and monitor criteria and toxic air pollutant levels in the ambient air.

The BAAQMD prepares air quality management plans (AQMPs) to attain ambient air quality standards in the Basin. The BAAQMD prepares ozone attainment plans (OAPs) for the federal ozone standard and clean air plans for the California ozone standard. The BAAQMD prepares these AQMPs in coordination with Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC). The most recent adopted comprehensive plan is the 2010 Bay Area Clean Air Plan, which was adopted on September 15, 2010, and incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools.

The general purposes of the 2010 Bay Area Clean Air Plan are to: (1) update the Bay Area 2005 Ozone Strategy in accordance with the requirements of the California Clean Air Act (CCAA) to implement all feasible measures to reduce ozone; (2) consider the impacts of ozone control measures on PM, TAC, and GHGs in a single, integrated plan; (3) review progress in improving air quality in recent years; and (4) establish emission control measures in the 2009 to 2012 time frame. The 2010 Bay Area Clean Air Plan also provides the framework for the Basin to achieve attainment of the California AAQS.

The Bay Area 2010 Clean Air Plan provides a comprehensive plan to improve Bay Area air quality, protect public health, and attain state air quality standards. The purpose of the Clean Air Plan is to update the most recent ozone plan, the Bay Area 2005 Ozone Strategy, to comply with state air quality planning requirements as codified in the California Health & Safety Code. Although steady progress in reducing ozone levels in the Bay Area has been made, the region is designated as nonattainment for both the 1-hour and 8-hour state ozone standards. The Clean Air Plan includes all feasible measures to reduce emissions of ozone precursors and to reduce transport of ozone precursors to neighboring air basins.

BAAQMD's Community Air Risk Evaluation (CARE) Program

The BAAQMD's CARE program was initiated in 2004 to evaluate and reduce health risks associated with exposures to outdoor TACs in the Bay Area. Based on the annual emissions inventory of TACs for the Basin, DPM was found to account for approximately 80 percent of the cancer risk from airborne toxics. The highest DPM concentrations occur in the urban core areas of eastern San Francisco, western Alameda, and northwestern Santa Clara counties. The BAAQMD has identified six affected communities in the Bay Area: Concord, eastern San Francisco, western Alameda County, Redwood City/East Palo Alto, Richmond/San Pablo, and San Jose. The City is not one of these six impacted communities. The major contributor to acute and chronic non-cancer health effects in the Basin is acrolein (C_3H_4O). Major sources of acrolein include on-road mobile sources and aircraft near freeways and commercial and military airports. Currently the CARB does not have certified emission factors or an analytical test method for acrolein. Since the appropriate tools needed to implement and enforce acrolein emission limits are not available, the BAAQMD does not conduct health risk screening analysis for acrolein emissions.

Air Quality Monitoring Data

The BAAQMD operates a network of ambient air monitoring stations throughout the Bay Area. The purpose of the monitoring stations is to measure ambient concentrations of air pollutants in order to determine whether the ambient air quality meets the NAAQS and the CAAQS. The air quality monitoring station closest to the City is the Hayward Monitoring Station; however, this station only monitors ozone, so data were obtained from the San Jose Monitoring Station for the other criteria air pollutants. Table 4.2-3, *Air Quality Monitoring Data*, presents a summary of the ambient pollutant concentrations monitored at these two stations during the last three available years (2011 through 2013). The data show occasional violations of the state O_3 standards, state PM_{10} standards, and federal $PM_{2.5}$ standards. The state and federal CO, SO_2, and NO_2 standards have not been exceeded in the past three years in the vicinity of Newark. The corresponding NAAQS and CAAQS are presented in Table 4.2-1. The Basin is currently designated as a nonattainment area for the state standards for PM_{10}, $PM_{2.5}$, 1-hour O_3, and 8-hour O_3 and the federal standards for 1-hour O_3 and $PM_{2.5}$.

As shown in Table 4.2-3, the 1-hour O_3 concentration exceeded the state standard once in 2013. The federal standard for 8-hour O_3 was not exceeded during this time. The state 24-hour PM_{10} standard was violated once in 2012 and five times in 2013. The federal 24-hour $PM_{2.5}$ standard was violated nine days between 2011 and 2013. Neither the state nor federal standards for CO, NO_2, or SO_2 were exceeded at any time during the years 2011 through 2013.

Table 4.2-3
AIR QUALITY MONITORING DATA

Pollutant	2011	2012	2013
Ozone (O_3) - Hayward Monitoring Station			
Maximum 1-hour concentration (ppm)	0.088	0.094	0.085
Days above 1-hour state standard (>0.09 ppm)	0	0	0
Maximum 8-hour concentration (ppm)	0.070	0.065	0.075
Days above 8-hour state standard (>0.07 ppm)	0	0	1
Days above 8-hour federal standard (>0.075 ppm)	0	0	0
Carbon Monoxide (CO) - San Jose Monitoring Station			
Maximum 8-hour concentration (ppm)	2.18	1.86	*
Days above state or federal standard (>9.0 ppm)	0	0	0
Respirable Particulate Matter (PM_{10}) - San Jose Monitoring Station			
Maximum 24-hour concentration ($\mu g/m^3$)	44.3	59.6	58.1
Days above state standard (>50 $\mu g/m^3$)	0	1	5
Days above federal standard (>150 $\mu g/m^3$)	0	0	0
Fine Particulate Matter ($PM_{2.5}$) - San Jose Monitoring Station			
Maximum 24-hour concentration ($\mu g/m^3$)	50.5	38.4	57.7
Days above federal standard (>35 $\mu g/m^3$)	3	2	4
Nitrogen Dioxide (NO_2) - San Jose Monitoring Station			
Maximum 1-hour concentration (ppm)	0.061	0.067	0.058
Days above state 1-hour standard (0.18 ppm)	0	0	0
Sulfur Dioxide (SO_2) - San Jose Monitoring Station			
Maximum 24-hour concentration (ppm)	0.003	0.003	0.001
Days above 24-hour state standard (>0.04 ppm)	0	0	0

Source: CARB (2014a). Air Pollution Data Monitoring Cards (2011, 2012, and 2013), http://www.arb.ca.gov/adam/index.html. Current as of September, 2014.
ppm = parts per million, $\mu g/m^3$ = micrograms per cubic meter
*Insufficient data available

4.2.3 Environmental Analysis

Significance Thresholds

This section outlines the criteria used to determine the significant project-related air quality impacts. The specific significance thresholds used in the evaluation of potential impacts from implementation of the proposed project are derived from Appendix G of the State CEQA Guidelines and the Dumbarton TOD Specific Plan EIR.

According to Appendix G of the State CEQA Guidelines, the proposed project would have a significant impact on transportation/traffic if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;

- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable Federal or State ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations; and/or
- Create objectionable odors affecting a substantial number of people.

The following issue areas were determined to have less than significant impacts for the overall Specific Plan, and would subsequently have less than significant impacts for the proposed project:

- Conflict with or obstruct implementation of the applicable air quality plan;
    - Although the proposed project would replace existing undeveloped areas with residential development, the proposed project is part of the Dumbarton TOD Specific Plan which was determined to be consistent with the applicable air quality and regional plans (including the Clean Air Plan); as the project-added vehicle trips would be consistent with the volume of traffic anticipated from the project site under the Specific Plan would not produce off-site transportation impacts that were not already identified in the Specific Plan EIR (Fehr & Peers 2015), project-specific impacts related to consistency with regional plans for the proposed project would be less than significant.

- Create objectionable odors affecting a substantial number of people.
    - Long-term operation of the Specific Plan projects would not result in significant air pollutant emissions effects related to odors. The project proposes similar uses to those contemplated in the Specific Plan, and would therefore also not be expected to result in significant impacts related to odors. The project involves construction of single-family homes and townhomes. These uses are not identified as major sources of odor emissions according to the CARB Air Quality and Land Use Handbook. The project would not be a source of nuisance odors associated with operations. Additionally, the project would not be located in close proximity to any facilities that are typically associated with odor complaints as identified by the BAAQMD. Therefore, the proposed residential uses would not be exposed to significant sources of objectionable odors and less than significant impacts are identified.

Relevant Thresholds

The following air quality thresholds are relevant for this project-specific analysis:

<u>BAAQMD Thresholds</u>

Under CEQA, the BAAQMD is an expert commenting agency on air quality within its jurisdiction or impacting its jurisdiction. BAAQMD reviews projects to ensure that they would: (1) support the primary goals of the latest Clean Air Plan; (2) include applicable control measures from the Clean Air Plan; and (3) not disrupt or hinder implementation of any Clean Air Plan control measures.

The BAAQMD adopted CEQA Guidelines in June 2010, which were revised in May 2011, to assist lead agencies in evaluating air quality impacts of projects and plans proposed in the Basin. The BAAQMD's CEQA Guidelines include methodology and thresholds for criteria air pollutant impacts and community health risk for project-level analyses. The BAAQMD's emission-specific thresholds (shown in Table 4.2-4, *BAAQMD Air Pollutant Thresholds*) are applicable as a screening criterion for potential significance.

Table 4.2-4
BAAQMD AIR POLLUTANT THRESHOLDS

Pollutant	Construction-Related	Operational-Related	
	Average Daily Emissions (pounds/day)	Average Daily Emissions (pounds/day)	Maximum Annual Emissions (tons/year)
Carbon Monoxide (CO)	none	9.0 ppm (8-hour average), 20.0 ppm (1-hour average)	
Nitrogen Oxides (NO_X)	54	54	10
Particulate Matter Exhaust (PM_{10})	82	82	15
Fine Particulate Matter Exhaust ($PM_{2.5}$)	54	54	10
PM_{10} and $PM_{2.5}$ Fugitive Dust	BMPs	none	
Sulfur Oxides (SO_X)	-	-	-
Lead and Lead Compounds	-	-	-
Volatile Organic Compounds (VOCs)	54	54	10

Source: BAAQMD CEQA Guidelines (May 2011).

Operation Emissions Thresholds

The BAAQMD CEQA Air Quality Guidelines do not have thresholds related to direct and indirect emissions resulting from project implementation. Traffic resulting from the implementation of the project would cause a significant localized air quality impact if emissions of CO cause a projected exceedance of the ambient CO State standard of 9.0 ppm for an 8-hour averaging period. The BAAQMD screening criteria for localized CO include the following:

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

If none of the above criteria are met, then the project would require a quantitative analysis that would compare emissions to the CAAQS.

Health Risk Screening Thresholds

BAAQMD has developed methods whereby local community risk and hazard impacts from projects for both new sources and new receptors can be determined based on comparison with applicable thresholds of significance and screening criteria. The screening methods are provided in the BAAQMD guidance document entitled *Recommended Methods for Screening and Modeling Local Risks and Hazards* (May 2010). The BAAQMD guidance provides screening tables to determine whether emissions would create a significant health hazard impact based on project size and receptor distance. Additionally, the BAAQMD recommends that all toxic sources are identified within a 1,000 foot radius of a project site to determine any risk and health hazards.

Thresholds related to the Exposure of New Residences to Toxic Air Contaminants

Local community risk and hazard impacts are associated with TACs and $PM_{2.5}$ because emissions of these pollutants can have significant health impacts at the local level. Unlike industrial or stationary sources of air pollution, residential development or other development where sensitive receptors would be located do not require air quality permits. Nonetheless, this type of development can expose people to unhealthy conditions.

Project impacts may include emissions of pollutants identified by the state as TACs. BAAQMD Regulation 2, Rule 5 establishes acceptable risk levels and emission control requirements for new and modified facilities that may emit additional TACs. Under Rule 5, emissions of TACs that result in a cancer risk of more than 10 in 1 million, or a health hazard index of more than 1, are considered to have a significant impact.

Air quality regulators typically define sensitive receptors as schools (preschool through 12^{th} grade), hospitals, resident care facilities, day-care centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality. BAAQMD recommends that all TAC and particulate $PM_{2.5}$ sources be identified within a 1,000-foot radius of a proposed project site to determine any risk and health hazards. Any project that has the potential to directly impact a sensitive receptor located within one-quarter mile and results in a health risk greater than 10 in 1 million would cause a potentially significant impact.

A Health Risk Assessment (HRA) typically evaluates a period of 70 years; however, due to the short construction duration of the proposed project, it is not meaningful to estimate quantitative carcinogenic health risks for this project.

Other potential sources of TAC on future residents would include diesel exhaust emissions from the nearby locomotive commuter trains operations. To determine the risk to the new residents, a health risk assessment was conducted using the USEPA's SCREEN3 Gaussian plume dispersion model and the Office of Environmental Health Hazard Assessment (OEHHA) *Air Toxics Hot Spots Program Risk Assessment Guidelines* (August 2003).

Summary of Findings from the Dumbarton TOD Specific Plan EIR

Air quality effects of the Dumbarton TOD Specific Plan are discussed in Chapter 4.2 of the Dumbarton TOD Specific Plan EIR (RBF 2011). The Specific Plan EIR concluded that during construction, development allowed under the Dumbarton TOD Specific Plan would increase the short-term emission of air pollutants potentially exceeding established air quality standards.

Long-term operation of the Specific Plan projects would not result in significant air pollutant emissions effects related to CO concentrations or odors; however, impacts related to TAC and $PM_{2.5}$ emissions were assessed as potentially significant and mitigation was required.

Additionally, as described in the Dumbarton TOD Specific Plan EIR, the projected increase in population associated with the Specific Plan would be consistent with the City's General Plan projections and would, therefore, be consistent with the 2010 Clean Air Plan assumptions. The Specific Plan is consistent with the applicable Clean Air Plan transportation control measures and supports regional strategies to reduce regional air quality impacts. Therefore, impacts related to consistency with regional plans were assessed as less than significant.

Several project description considerations are taken into account in the air quality analysis for the Gateway Station West Project, as described below.

Project Design Features

In addition to the project characteristics described in Section 3.4 of this SEIR, the project proposes to incorporate several features consistent with mitigation measures required as part of the Dumbarton TOD Specific Plan EIR. These features include several requirements of the California Green Building Code (CALGreen) and Green Point Rated Program that would increase energy efficiency and reduce area source pollutants. These features include, but are not limited to, the following:

- Energy efficiency of at least 20 percent beyond Title 24
- Sustainably designed plumbing systems and low-flow water fixtures
- Efficient mechanical and electrical equipment, appliances, and lighting fixtures.
- Low-water landscape irrigation system
- Low-water landscape practices such as use of soil amendments and top dressing for moisture retention, and placing trees to reduce heat gain on hard surfaces
- Weather- or soil-moisture-based irrigation controllers
- Drought-tolerant landscaping
- Low-VOC flooring, paint, and construction adhesives
- Low-VOC insulation
- Natural gas fireplaces
- Shade trees in parking areas and throughout project site

- Cool roof materials (albedo/reflectivity greater than or equal to 30)
- Smart meters and programmable thermostats
- Roof anchors and wiring for solar panel installations
- Residences would be within walking distance (0.25-mile) from a proposed transit station
- Maximum interior daylight
- Secure bike parking (at least 1 bicycle space per 20 vehicle spaces)
- Information on transportation alternatives would be provided to the public (i.e., bike maps and transit schedules)

Control measures during project construction that would be implemented to be consistent with the Dumbarton TOD Specific Plan EIR would include, but not be limited, to the following:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day in order to maintain a minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
- All haul trucks transporting soil, sand, or other loose material off site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
- Roadways, driveways, and sidewalks will be paved early in construction phasing to minimize fugitive dust.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time of diesel powered construction equipment to two minutes. Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
- Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.
- Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas and watered appropriately until vegetation is established.

- The simultaneous occurrence of excavation, grading and ground disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
- All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
- Site accesses to a distance of 100 feet from the paved road shall be treated with a 6- to 12-inch compacted layer of wood chips, mulch, or gravel.
- Sandbags or other erosion-control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.
- The project shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) will achieve an USEPA Tier 2 or better engine standards for off-road engines.
- Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., Regulation 8, Rule 3: Architectural Coatings).
- Requiring that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology (such as Tier 2 or better engine standards and diesel particulate filters) for emission reductions of NO_X and PM.

Additionally, the project proposes to recycle, and/or salvage for reuse, a minimum of 75 percent of the non-hazardous construction debris.

Proposed Construction Phasing

For the purpose of the air quality analysis, project construction was assumed to begin in February 2016 and be completed in March 2020. The anticipated construction schedule used to calculate the daily emissions is based on a combination of CalEEMod defaults and input from the project engineer. The associated CalEEMod construction emission calculations are summarized below, with detailed schedule assumptions and emission calculations provided in Appendix D of this SEIR. It should also be noted that the currently proposed construction schedule assumes a start date of September 2016 and a termination date of October 2020. While the currently proposed dates are approximately seven months later than those used in the model, the associated emissions calculations outlined below are still applicable based on the following considerations: (1) the methodology used for modeling project construction emissions includes conservative assumptions regarding equipment operation and timing, with most equipment assumed to be operating simultaneously and within relatively compressed time periods; (2) assuming later start and completion dates would likely result in an overall reduction of calculated construction emissions, as equipment efficiencies and related air quality standards tend to increase over time; and (3) the overall construction period and required equipment would not change from those assumed in the current model. As a result, the modeling analysis provided for project construction in Appendix D and outlined below is conservative as noted, and is considered applicable for the currently proposed project construction schedule (with additional modeling therefore not required or proposed).

Impact Analysis

Conformance to Federal and State Air Quality Standards

The project would generate criteria pollutants in the short term during construction and the long term during operation. Assessments of construction and future operational emissions were conducted to determine the proposed project's emissions relative to the BAAQMD air pollutant thresholds (Table 4.2.4).

Construction

Emissions from the construction phase of the project were assessed using the CalEEMod Version 2013.2.2 (HELIX 2015b). The construction analysis included modeling of the projected construction equipment that would be used during each construction activity. The analysis assessed maximum daily emissions from individual construction activities, including demolition, grading, underground infrastructure/utilities, building construction, paving, and architectural coating. A complete listing of the assumptions used in the analysis and model output is provided in the Air Quality and Greenhouse Gas Technical report included as Appendix D to this SEIR.

Construction emission calculations assumed the use of USEPA Tier 2 emissions compliant off-road equipment and the implementation of standard dust control measures, including watering two times daily during grading, ensuring that all exposed surfaces maintain a minimum soil moisture of 12 percent, and limiting vehicle speeds on unpaved roads to 15 mph. Other project features listed earlier in this section were not quantified or incorporated into the CalEEMod emissions analysis due to limited information on the amount of emission reductions. Therefore, estimated construction emissions presented in this SEIR would be considered conservative.

Table 4.2-5, *Maximum Daily Construction Emissions*, presents a summary of construction emissions for each construction activity associated with the proposed project. Based on the assumed construction schedule, the maximum daily emissions for NO_X, PM_{10}, and $PM_{2.5}$ would occur during the grading phase. The maximum daily emissions for ROG, CO, and SO_X would occur when the building construction phase overlaps with the application of architectural coatings.

Table 4.2-5
MAXIMUM DAILY CONSTRUCTION EMISSIONS

Phase	Pollutant Emissions (pounds per day)					
	ROG	**NO_X**	**CO**	**SO_X**	**Exhaust PM_{10}**	**Exhaust $PM_{2.5}$**
Demolition	1	34	26	<1	<1	<1
Grading	6	95	82	<1	1	1
Underground Infrastructure/Utilities	<1	8	7	<1	<1	<1
Paving	2	20	18	<1	<1	<1
Building Construction	7	48	94	<1	1	1
Architectural Coatings	14	3	8	<1	<1	<1
Maximum Daily Emissions	**20**	**95**	**96**	**<1**	**1**	**1**
Significance Thresholds	54	54	-	-	82	54
Significant Impact?	No	**Yes**	No	No	No	No

Source: HELIX 2015b.

Notes: (1) Emissions were calculated for both summer and winter months. On average winter emissions were higher and therefore were used for this analysis. (2) Assumes USEPA Tier 2 off-road equipment and Level 2 diesel particulate filters. (3) Includes Low VOC coatings (50 g/l).

The BAAQMD does not list thresholds of significance for fugitive dust, but rather, includes Best Management Practices (BMPs) to reduce fugitive dust emissions. The project would utilize the BMPs included in Section 1.4 as well as measures from the Dumbarton TOD Specific Plan EIR. As illustrated in Table 4.2-5, despite the implementation of BMPs and Specific Plan measures, project construction emissions would exceed the BAAQMD's significance threshold for NO_X.

Operation

Evaluation of operational emissions is analyzed based on the increase of emissions from the proposed project; emissions were estimated using CalEEMod. Operational emissions typically include mobile sources (vehicle trips) and area sources. The emissions from mobile sources were calculated with the trip rates provided in the Gateway Station West Transportation Evaluation (Fehr & Peers 2015), CalEEMod default trip lengths, and emission factors from EMFAC2011. Area sources of air pollutant emissions include natural gas combustion from water and space heating, landscape equipment, consumer products, and architectural coatings (such as paint). Operational emissions were calculated using CalEEMod defaults. All modeling output files are provided in Appendix A of the Air Quality and Greenhouse Gas Technical report, which is included as Appendix D to this SEIR.

Mobile source emissions for the proposed project were calculated using an average daily trip (ADT) estimate of 4,838 trips (3,056 ADT from the 321 single-family dwelling units and 1,782 ADT from the 268 multi-family dwelling units) (Fehr & Peers 2015). This trip estimate does not take into account the nine-percent internal capture rate (i.e., trip reduction) included in the traffic analysis and, therefore, represents a conservative assumption.

Operational emission estimates take into account the following project design features into CalEEMod for the project:

- Increase in land use density;
- Energy efficiency of at least 20 percent beyond 2013 Title 24;
- Use of low VOC coatings and cleaning supplies;
- Installation of only natural gas fireplaces; and
- Reduce water use by at least 20 percent.

Other project features listed in Section 3.4 were not quantified or incorporated into the CalEEMod emissions analysis due to limited information on the amount of emission reductions they would achieve. Therefore, estimated emissions presented herein would be considered conservative.

As illustrated in Table 4.2-6, *Maximum Daily Operational Emissions*, the increase of daily maximum operational emissions related to the project would be below the BAAQMD's significance criteria for all criteria pollutants, and would not result in a significant direct impact related to operational emissions.

Table 4.2-6
MAXIMUM DAILY OPERATIONAL EMISSIONS

Emission Source	Pollutant Emissions (pounds/day)					
	VOC	**NO_X**	**CO**	**SO_X**	**Exhaust PM_{10}**	**Exhaust $PM_{2.5}$**
Area	24	1	49	<1	1	1
Energy	<1	4	2	<1	<1	<1
Mobile	16	43	178	<1	1	1
TOTAL	**40**	**48**	**228**	**<1**	**2**	**2**
Significance Threshold	54	54	-	-	82	54
Significant Impact?	No	No	No	No	No	No

Source: HELIX 2015b.

Notes: (1) Emissions were calculated for both summer and winter months. On average winter emissions were higher and, therefore, were used for this analysis. (2) Emissions from the proposed project include applicable design features listed in Section 3.4 of this SEIR.

Impacts to Sensitive Receptors

The two primary pollutants of concern regarding health effects for residential development are DPM and CO. An analysis of the project's potential to expose sensitive receptors to these pollutants is described below.

Construction Diesel Particulates

Construction activities are sporadic, transitory, and short-term in nature, and once construction activities have ceased, so, too, have their emissions. The DPM is not included as a criteria pollutant; however, it recognized by the state as containing carcinogenic compounds. The risks associated with exposure to substances with carcinogenic effects are typically evaluated based on a lifetime of cancer exposure, which is defined in the *California Air Pollution Control Officers Association* (CAPCOA) Air Toxics "Hot Spots" Program Risk Assessment Guidelines (CAPCOA 1993) as 24 hours per day, 7 days per week, 365 days per year, for 70 years for residences and 40 years for school children. The DPM would be emitted from heavy equipment used in the construction process. The proposed construction period of less than four years is much less than the 70-year/40-year period used for health risk determination. As shown in Table 4.2-5, emissions of PM during construction (which includes equipment emissions) would be below significance thresholds. Further, because diesel particulates are considered to have long-term health effects and construction would be a short-term event, emissions would not result in a significant long-term health risk to surrounding receptors. Therefore, potential construction impacts from DPM are considered less than significant and no mitigation is required.

Operational Diesel Particulates

Exposure to DPM generated by traffic on roadways is a concern identified in the CARB Air Quality and Land Use Handbook. The CARB guidelines indicate that siting new sensitive land uses (such as senior housing) within 500 feet of a freeway or an urban road with 100,000 vehicles per day should be avoided. The nearest major freeway to the project site (Interstate 880) is located more than two miles east of the project site and is outside of the avoidance guidelines. The CARB also recommends siting sensitive land uses more than 1,000 feet from distribution centers. The nearest distribution center to the project site is located approximately 1,500 feet to the northeast. Both Interstate 880 and the nearest distribution center are outside the avoidance guidelines and downwind of the project site.

The Dumbarton TOD Specific Plan would provide space for a multimodal transit station that would include commuter train service. The Dumbarton Rail Corridor (DRC) would provide future commuter rail service from the Union City Intermodal Transit Center across the Dumbarton Bridge to Menlo Park and finally connect to the Caltrain service that runs from San Francisco to San Jose. Although future rail uses would utilize cleaner diesel engines, a worst case scenario would include the operation of six diesel trains per day with 3 to 5 minutes of locomotive idling during each stop at the station. Based on the site plan for the proposed project (Figure 3-5, *Site Plan*), high-density residential uses would be located approximately 650 feet from the future transit station (i.e., DRC). The BAAQMD identifies diesel trains as a common source of DPM emissions and recommends a buffer distance of at least 1,000 feet between the locomotives and residences. Because the project would site new residences within the 1,000-foot buffer, a health risk analysis was prepared.

The USEPA SCREEN3 model, the screening air dispersion modeling method approved by the CARB for such assessments, was used to estimate concentrations of DPM from the future transit station to the project site. The DPM emissions were estimated using emission factors provided

in the USEPA's April 2009 *Technical Highlights – Emission Factors for Locomotives*. It was estimated that locomotives would result in 1.15 grams of DPM per day. Detailed modeling assumptions are included in the Air Quality and Greenhouse Gas Technical Report (HELIX 2015b) and associated appendices (included as Appendix D to this SEIR). Both cancer health risks and non-cancer health risks were analyzed in the report. Table 4.2-7, *Health Risk Assessment Results*, provides the results of the assessment along with the BAAQMD's Significance health risk thresholds. As shown in the table, the project would not be exposed to DPMs exceeding exceed the significance thresholds for cancer risk and chronic non-cancer hazard. Project-specific impacts related to the exposure of sensitive receptors to substantial pollutant concentrations would be less than significant.

Table 4.2-7
HEALTH RISK ASSESSMENT RESULTS

Metric	Dispersion Model Estimate[1]	Significance Threshold	Exceeds Threshold?
Cancer Risk	0.68 in 1 million	10 in 1 million	No
Chronic Non-Cancer HI	0.0004	1.0	No

Source: HELIX 2015b.
[1] Computed at the nearest sensitive receptor located approximately 650 feet south of the transit station.

Carbon Monoxide Hot Spots

As indicated in the BAAQMD CEQA Air Quality Guidelines, ambient concentrations of CO have decreased dramatically in the Basin with the introduction of the catalytic converter in 1975. No exceedances of the CAAQS or NAAQS for CO have been recorded at nearby monitoring stations since 1991. As a result, the screening criteria in the BAAQMD's CEQA Air Quality Guidelines notes that CO impacts may be determined to be less than significant if a project is consistent with the applicable congestion management plan or would not increase traffic volumes at intersections to more than 44,000 vehicles per hour for regular intersections, or would not increase traffic volumes at intersections to more than 24,000 vehicles per hour for intersections with limited mixing zones (e.g., tunnels, garages, overpasses, etc.).

Based on the traffic data presented in Section 4.10, *Transportation and Traffic*, of this SEIR, the project's trips would be consistent with the Specific Plan and would not cause traffic volumes at local intersections to increase beyond 6,000 vehicles per hour. The intersection of Newark Boulevard and Jarvis Avenue would have the greatest traffic volumes with 5,652 vehicles per hour during Year 2035 conditions. According to the Transportation Evaluation (Fehr & Peers 2014, 2015), the proposed project is anticipated to account for approximately 31 percent of the total generated trips generated by the Specific Plan. Therefore, because the proposed project would not increase traffic volumes to 44,000 vehicles per hour for regular intersections, nor would it increase traffic volumes to more than 24,000 vehicles per hour for intersections with limited mixing zones, effects related to proposed project CO concentrations would be less than significant.

4.2.4 Level of Significance Before Mitigation

The project-specific analysis, which specifically estimated emissions based on the assumed construction schedule and construction assumptions (related to area grades, number of dwelling units, etc.) concluded that pre-mitigation project construction emissions would exceed the BAAQMD's significance threshold for NO_X and result in a significant impact.

The project-specific analysis of operational emissions determined that implementation of the Gateway Station West project would not exceed stated thresholds and long-term emissions would be below the BAAQMD's significance criteria for all criteria pollutants, and would not result in a significant direct impact related to operational emissions. Thus, no mitigation would be required.

The project-specific analysis also concluded, although a potential impact related to TAC and $PM_{2.5}$ emissions was identified in the Specific Plan EIR, that construction of the proposed project would not result in levels of TAC and $PM_{2.5}$ emissions that would result in an exceedance of the significance thresholds for cancer risk and chronic non-cancer hazard. Project-specific impacts related to increased health risk for sensitive receptors would be less than significant, and no mitigation measures would be required.

Because the proposed project would not increase traffic volumes to 44,000 vehicles per hour for regular intersections, nor would it increase traffic volumes to more than 24,000 vehicles per hour for intersections with limited mixing zones, effects on sensitive receptors related to proposed project CO concentrations would be less than significant and no mitigation would be required.

4.2.5 Mitigation Measures

Relevant Mitigation Measures from the Dumbarton TOD Specific Plan EIR

Mitigation Measures (MMs) 4.2-1a and 4.2-1b from the Dumbarton Specific Plan TOD EIR are relevant to the proposed project and were largely incorporated into project design, as described in Section 4.2.3. One element of MM 4.2-1a is an action to occur during construction that was not taken into account in the modeling assumptions used for assessing project-level emissions; that one element is restated below to ensure project compliance with the Specific Plan EIR. The additional mitigation measure identified for air quality in the Specific Plan EIR (MM 4.2-2) is related to potential impacts from emissions at the Dumbarton Transit Station. Consistent with MM 4.2-2, a health risk analysis was completed for project-proposed residences within 1,000 feet of the future station, as described in Section 4.2.3; no additional mitigation is required for that issue.

MM 4.2-1a: Prior to issuance of any Grading Permit, the Public Works Director and the Building Official shall confirm that the Grading Plan, Building Plans, and specifications stipulate that, in compliance with the BAAQMD CEQA Air Quality Guidelines, the following basic construction mitigation measure shall be implemented for the Gateway Station West Project. A publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints shall be posted. This person shall respond and take corrective action

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

Project-Specific Mitigation Measures

The following mitigation measure is prescribed to address construction-related NO_X emissions:

MM Air-1 **Tier 4 Off-road Construction Equipment.** Prior to issuance of any Grading Permit, the Public Works Director and the Building Official shall confirm that the Grading Plan, Building Plans, and specifications stipulate that all diesel-powered off-road equipment used during the grading phase shall meet Tier 4 final off-road emissions standards. A copy of each unit's certified Tier specification shall be provided to the City Building Department at the time of mobilization of each applicable unit of equipment.

4.2.6 Level of Significance After Mitigation

With the implementation of MMs 4.2-1a and 4.2-1b from the Dumbarton TOD Specific Plan EIR largely incorporated into project design, emissions of all criteria pollutants related to project construction but NO_X would be below the BAAQMD's significance threshold. Concentrations of NO_X emissions during project construction would be additionally addressed through incorporation of MM Air-1, which would result in NO_X being reduced to 49 pounds per day (below the significance threshold). Thus, direct impacts from criteria pollutants generated during construction would be less than significant through project design and with the incorporation of mitigation.

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4.3 BIOLOGICAL RESOURCES

This section identifies existing biological resources within the project study area, evaluates potential impacts to those resources that would occur as a result of the proposed project, and prescribes mitigation measures to reduce those impacts to below a level of significance. The description of the affected environment, analysis of impacts, and recommended mitigation discussions are based on the Biological Resources Evaluation for the proposed project (Appendix E; HELIX 2015c).

The Dumbarton TOD Specific Plan EIR includes a general discussion of biological resources within the Specific Plan area, evaluates potential impacts at a program-level to those resources from implementation of the Specific Plan, and identifies measures to avoid impacts or reduce impacts to below a level of significance. The Specific Plan EIR analysis was based, in part, on a project-specific jurisdictional delineation and special-status species assessment prepared for one of the parcels in the Specific Plan area (the Torian Property) prior to the City adopting the Specific Plan, as well as a program-level biological resources analysis prepared for the remainder of the Specific Plan area. The program-level biological resources analysis identified general habitats present within the Specific Plan area and special-status species with the potential to occur within the Specific Plan area; however, project specific studies were not conducted for any parcel(s) within the Specific Plan area with the exception of the Torian property.

Focused biological studies were conducted in the project study area and are reported herein along with a project-specific evaluation of potential impacts to biological resources that would occur as a result of the proposed project. Mitigation measures are also prescribed to avoid impacts to biological resources or to reduce impacts to biological resources to below a level of significance.

4.3.1 Environmental Setting

Topography and Soils

The project site's terrain is characterized by a series of natural hills, upland soil stockpiles, and constructed basins. The surface elevations on the project site range from about 8 to 10 feet amsl, with the exception of a serpentinite outcrop that extends to approximately 26 feet amsl, and stockpile storage areas that reach 30 to 35 feet amsl. The rock outcrop is located in the southeastern portion of the site, and is comprised of serpentine bedrock that contains chrysotile, a form of naturally occurring asbestos.

The off-site improvement areas are relatively flat – topography in the Hickory Street ROW is associated with the slightly raised roadbed, and topography in the culvert replacement site area is associated with constructed berms around the ditch. The surface elevations of the Hickory Street ROW and 'A' Avenue range from approximately 5 to 9 feet amsl. The surface elevation of the Enterprise Drive Frontage is approximately 11 feet amsl, and the surface elevations in the culvert replacement site range from approximately 7 to 10 feet amsl.

Soil types in the study area were obtained from the online Natural Resources Conservation Service (NRCS) soil survey. The entire project site, 'A' Avenue, and a portion of the Hickory Street ROW are mapped as poorly drained clay/clay loam (NRCS 2013a); however, the bedrock outcrop on site is comprised of serpentinite bedrock that contains chrysotile. A portion of the

Hickory Street ROW and the entire Enterprise Drive ROW are mapped as silt loam. These typical soil profiles do not exist in many portions of the project site as a result of past land uses. Details on the characteristics of the on-site soils are provided in Appendix G to this SEIR.

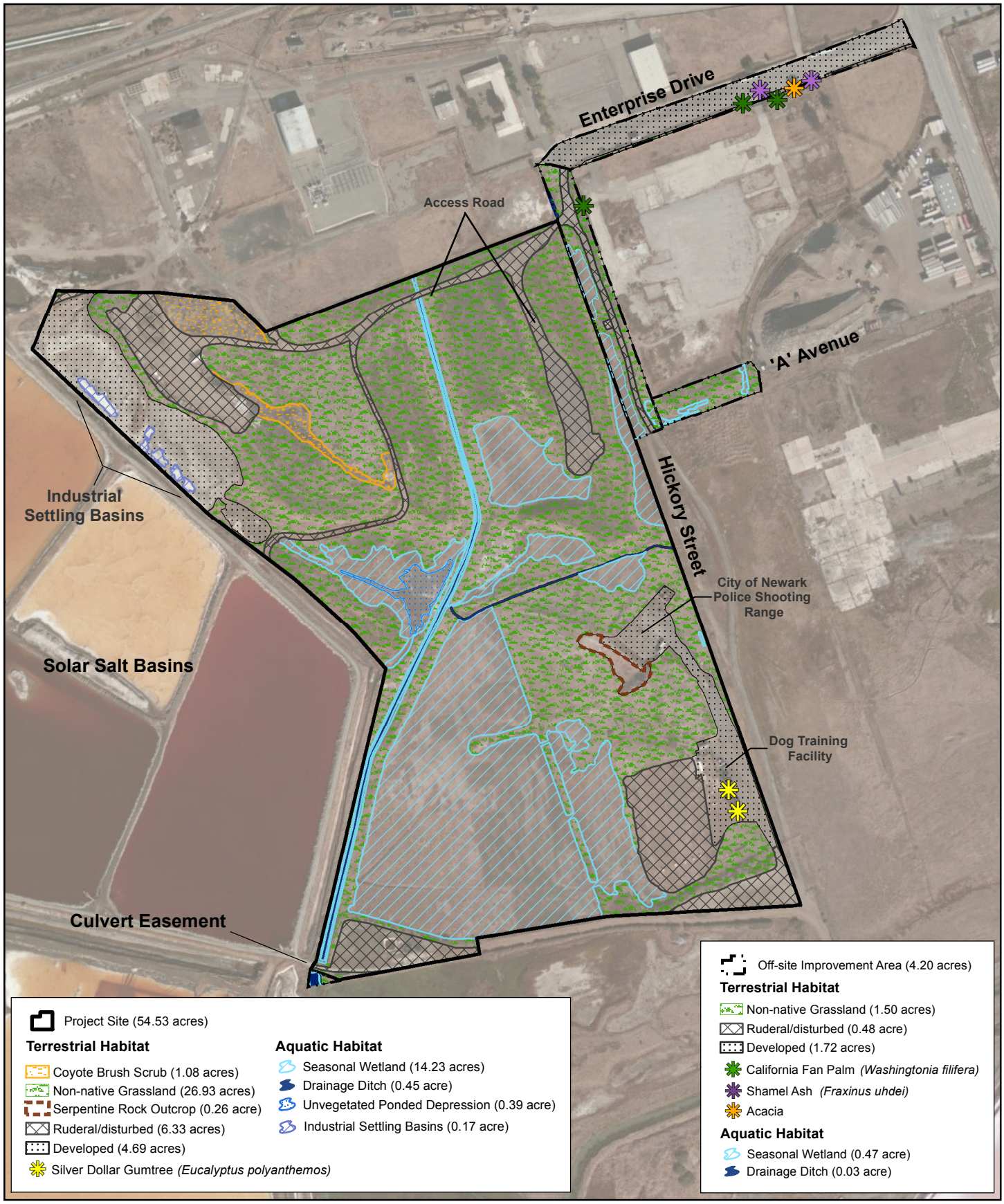
Hydrology

The project site falls within two watersheds: the San Francisco Bay Estuaries watershed (HUC12 18050041001) and the Plummer Creek-Frontal San Francisco Bay Estuaries watershed (HUC12 180500040702). Plummer Creek is a tidal channel south of the project site that is connected to the San Francisco Bay 2.3 miles westward via Newark Slough. A more detailed description of site hydrology is provided in Section 4.8, *Hydrology/Water Quality*, of this SEIR.

Precipitation is the only source of water for the project area. Water within the seasonal wetlands and drainage ditches on the project site generally drains to Drainage Ditch 1 and then southward toward Plummer Creek. A sheet pile barrier currently prevents water from entering and leaving the site in compliance with a Storm Water Pollution Prevention Plan (SWPPP) that was designed to prevent storm water generated on the site from entering the Bay. South of the sheet pile barrier, the drainage ditch in the culvert replacement site is fed by tidal influence from Plummer Creek. The Hickory Street ROW, 'A' Avenue, and Enterprise Drive ROW receive storm water run-off from adjacent properties.

Plant Communities and Associated Wildlife Habitat

Habitat types on the project site include coyote brush scrub, non-native grassland, serpentine rock outcrop, ruderal/disturbed, developed, seasonal wetland, drainage ditch, and un-vegetated ponded depression. Habitat types in the Hickory Street ROW include non-native grassland, ruderal/disturbed, seasonal wetland, and drainage ditch. Habitat types in 'A' Avenue include non-native grassland, ruderal/disturbed, and seasonal wetland. Habitat types in the Enterprise Drive ROW include non-native grassland, ruderal/disturbed, and developed, and habitat types in the culvert replacement site include non-native grassland, seasonal wetland, and drainage ditch. Table 4.3-1, *Existing Habitat Types in the Project Site and Off-site Improvement Areas*, is a summary of the existing biological habitat types in the project area and Figure 4.3-1, *Habitat Map*, depicts the entire project area.



Base Map: Esri, USGS Map Date: 06-24-2015

Habitat Map

GATEWAY STATION WEST

HELIX Environmental Planning

N 0 350 Feet

1 inch = 382.4 feet

Figure 4.3-1

Table 4.3-1
EXISTING HABITAT TYPES IN
THE PROJECT SITE AND OFF-SITE IMPROVEMENT AREAS

Habitat Type	Gateway Station Project Site (acres)	Off-site Improvement Areas				Total Habitat Type (acres)
		Hickory Street ROW (acres)	'A' Avenue (acres)	Enterprise Drive ROW (acres)	Culvert Replace-ment Site (acres)	
Terrestrial						
Coyote Brush Scrub	1.08	--	--	--	--	**1.08**
Non-Native Grassland	26.93	0.85	0.56	0.07	0.02	**28.43**
Serpentinite Rock Outcrop	0.26	--	--	--	--	**0.26**
Ruderal/Disturbed	6.33	0.38	--	0.10	--	**6.81**
Developed	4.69	--	--	--1.79	--	**6.48**
Aquatic						
Seasonal Wetland	14.23	0.40**	0.07	--	<0.01	**14.70**
Drainage Ditch	0.45	<0.01	--	--	0.03	**0.48**
Unvegetated Ponded Depression	0.39	--	--	--	--	**0.39**
Industrial Settling Basin (aquatic)	0.17	--	--	--	--	**0.17**
TOTAL	**54.53**	**1.63**	**0.63**	**1.96**	**0.05**	**58.80**

* Totals may not add as the result of rounding
** This area includes 0.21 acre adjacent to the Torian Project that is included in that project's aquatic resource permits.

Terrestrial Vegetation Communities and Habitats

Coyote Brush Scrub

A total of 1.08 acres of coyote brush scrub habitat occurs primarily along a relatively undisturbed ridgeline in the northwestern portion of the project site. Coyote brush (*Baccharis pilularis* ssp. *consanguinea*) is the predominant shrub canopy (approximately 15 percent or greater cover) over a grassy understory. Similar to those described above in the non-native grassland habitat, the grassy understory contains primarily non-native grass and forb species typical of disturbed sites.

Non-native Grassland

A total of 26.93 acres of non-native grassland occurs throughout the project site, and an additional 1.5 acres occurs in the off-site improvement areas. This is the predominant habitat on the project site, and it occurs primarily within areas that have been previously disturbed for industrial operations, such as stockpiles and non-depressional areas with soil previously removed or treated by clean-up operations. In the off-site improvement areas, this habitat type is the predominant terrestrial habitat, and it occurs in upland areas that are not currently developed or are maintained relatively vegetation free (e.g., developed and ruderal areas in Enterprise Drive and Hickory Street). This habitat type is characterized by non-native grasses such as wild oats

(*Avena fatua*), Bermuda grass (*Cynodon dactylon*), and Italian rye grass (*Festuca perennis*). Forbs such as stinkwort (*Dittrichia graveolens*), milk thistle (*Silybum marianum*), and five-horned smotherweed (*Bassia hyssopifolia*), are common throughout the grassland, and shrubs such as alkali heath (*Frankenia salina*) and big salt bush (*Atriplex lentiformis* spp. *lentiformis*) occur sparsely. The non-native grassland in the Hickory Street ROW, Avenue "A," and Enterprise Drive Frontage is occasionally mowed.

Serpentine Rock Outcrop

As described earlier, a 0.26-acre rock outcrop is located in the southeastern portion of the project site, and reaches approximately 26 feet amsl. The outcrop is comprised of serpentinite bedrock that contains chrysotile, a form of naturally occurring asbestos. Vegetation on the rock outcrop consists primarily of non-native grass and forb species similar to those described above in the non-native grassland habitat.

Ruderal/Disturbed

A total of 6.33 acres of ruderal/disturbed habitat occurs in the project site, 0.38 acre occurs within the Hickory Street ROW, and 0.10 acre occurs within the Enterprise Drive ROW. On the project site, this habitat primarily occurs along access roads and areas cleared for equipment and materials storage. In the Hickory Street ROW, this habitat occurs within the unpaved, cleared roadway, and in the Enterprise Drive ROW, this habitat occurs in sparsely vegetated areas of the ROW with no ground treatment (e.g., sidewalks). These areas are largely devoid of vegetation, but may contain non-native plant species that commonly occur in poor soils and disturbed habitats, including species such as wild oats, Bermuda grass, bristly ox tongue (*Helminthotheca echioides*), and five-horned smotherweed. No ruderal/disturbed habitat occurs in 'A' Avenue or the culvert replacement site.

Developed

Developed land is where permanent structures, pavement, and/or other land uses prevent the growth of vegetation, or where the vegetation is associated with landscaping and is clearly tended and maintained. Developed portions of the project site (a total of 4.69 acres) include active and abandoned structures and facilities (e.g., the pistol range and dog training area) and constructed industrial settling basins. The settling basins (which comprise 2.87 acres of the 4.84 acres of developed land) are located in the northwest corner of the project site. They are highly alkaline and contain gypsum and other salts, and are subject to ongoing maintenance activities. As a result, these features are largely devoid of vegetation and have low biological habitat value. Portions of the settling basins contain aquatic habitat as described in Section 4.4.2. Developed portions of the Enterprise Drive Frontage include the aggregate sidewalk, paved driveways to adjacent properties, and paved roadway. No developed area occurs within the Hickory Street ROW, 'A' Avenue, or the culvert replacement site.

Aquatic Habitats

Seasonal Wetlands

Seasonal wetlands on the project site and off-site improvement lands are located either in topographical depressions or at the margins of water sources, with a hydrologic regime characterized by temporary saturation or inundation capable of supporting hydrophytic plant species and hydric soils. A total of 14.23 acres of seasonal wetland occur in the project site and are adjacent to drainage ditches or ponded features on or off site. An additional 0.48 acre of seasonal wetland occurs on the off-site improvement lands. The seasonal wetlands in on the project areas have been disturbed, and several of the wetlands are the result of ground disturbance associated with previous land uses.

Areas of the project site that retain water for a longer duration feature stands of Pacific swampfire, opposite leaf Russian thistle (*Salsola soda*; nonnative), and red saltwort (*Salicornia rubra*; native). These pickleweed stands occur in the lower elevation areas of the site - primarily in the southernmost portion of the project site, and along the margins of the north/south drainage ditch and the unvegetated ponded depression. As previously mentioned, these wetlands are seasonally inundated and in general, the native pickleweed (Pacific swampfire and red saltwort) occur sparsely in the brackish pickleweed wetlands, and are short in stature. The densest stands of Pacific swampfire and red saltwort occur as a narrow band along either side of the channel of the north/south drainage ditch.

The wetland located in the southern portion of the project site encompasses more than half of the southern portion of the project site and is generally topographically flat with berms along its perimeter. Portions of this wetland were previously scraped to remove lead shot. These areas are slightly topographically lower, and much of the remaining soils contain gravel and cobble. This wetland has been mapped as brackish pickleweed wetland because it is characterized by a predominance of red saltwort and Pacific swampfire, which are generally short in stature. The composition and density of these species are dependent on the depth and duration of the ponded water – the vegetation is less dense and is either limited to the annual red saltwort or is barren in deeper areas that pond water for a longer duration. The majority of the wetland is sparsely vegetated or barren, and the greatest vegetation cover is in the southwestern portion of the wetland.

The remaining seasonal wetlands on the project site, Hickory Street ROW and 'A' Avenue are also brackish seasonal wetlands that are inundated less frequently or are characterized primarily by saturation. These seasonal wetlands are vegetated with species such as perennial rye grass (*Festuca perennis*), seaside barley (*Hordeum marianum*), coastal salt grass (*Distichilis spicata*), and alkali sea-heath. These wetlands are located in the northern portions of the project site, and occur in depressional areas between stock piles, along access roads, and areas excavated as part of previous site remediation activities.

The seasonal wetland in the culvert replacement site occurs along the margins of the drainage ditch in the easement. This seasonal wetland is tidally influenced and characterized by gumweed (*Grindelia* sp.), Italian ryegrass (*Festuca perennis*), and coastal salt grass with a marginal amount of Pacific swampfire.

Drainage Ditches

Two constructed drainage ditches (0.45 acre) occur within the project site: one runs north/south through the project site, and the other runs east/west, bisecting the property. Both drainage ditches are man-made, and collect surface runoff from the site. The north/south drainage ditch flows southward until it reaches a sheet pile barrier at the southwestern end of the project site that prevents water from draining off-site. Since runoff collected in the ditch cannot leave the site, water collected either evaporates, infiltrates, or is pumped to wherever it is needed in the adjacent salt production facilities. The northern extension of the drainage ditch is mapped as seasonal wetland because of a lack of a defined bed and bank.

The north/south drainage ditch (i.e., Drainage Ditch 1) originates on the adjacent FMC property to the north and was constructed in the 1930's for the disposal of industrial wastes including filter cake that contained dicalite and arsenic sulfide from the production of phosphoric acid. The project site was mostly dry at the time of the site visits, although some standing water was present near the southern end of the ditch. Throughout the project site, the bottom of the ditch is devoid of vegetation. The banks of the ditch support seasonal wetlands characterized by Pacific swampfire and opposite leaf Russian thistle (*Salsola soda*). The east/west ditch (i.e., Drainage Ditch 2) was dry during the site visits, and the ditch bottom and banks are vegetated with red saltwort (*Salicornia rubra*) and opposite leaf Russian thistle.

One constructed drainage ditch (0.004 acre) occurs within the Hickory Street ROW that receives stormwater run-off from Enterprise Drive. The drainage ditch is vegetated primarily with upland grasses and forbs occurring in the surrounding non-native grassland.

Unvegetated Ponded Depression

The 0.39-acre unvegetated, ponded depression on the project site is located in a topographic depression surrounded by seasonal wetland, but the depression is devoid of vegetation. A culvert connects the unvegetated ponded depression to the north/south ditch. The depression collects runoff from the site and when it exceeds capacity, drains to the ditch through the culvert. Seed shrimp carapaces (*Ostracoda* sp.) were observed in the depression when it was dry, and brine shrimp (*Artemia franciscana*) were observed in the depression when it was inundated.

Industrial Settling Basins (aquatic)

The industrial settling basins were constructed as part of the prior industrial processes. These basins are devoid of vegetation, and are largely considered to be a developed habitat (see the description of the settling basins as a developed habitat, above), but do collect surface runoff which ponds within depressions in the bottoms of the settling basins. A total of 0.17 acre of the industrial settling basins is considered to be aquatic habitat based on evidence of ponding. Brine shrimp inhabit the depressions in the bottoms of the settling basins.

Wildlife

The project site and off-site improvement areas provide suitable habitat for a variety of wildlife species commonly inhabiting the San Francisco Bay area. Eucalyptus trees, barn owl boxes, and utility line towers on the project site and adjacent areas provide potential nesting habitat for

various raptors, and the upland habitats provide suitable foraging habitat. Red-tailed hawk (*Buteo jamaicensis*), northern harrier (*Circus cyaneus*), and barn owl (*Tyto alba*) have been observed foraging over the project site during biological surveys. Although limited, the trees and shrubs on the project site and off-site improvement areas provide suitable nesting habitat for various passerines. Passerines including mourning dove (*Zenaida macroura*),rufous-crowned sparrow (*Dendroica coronata)*, white-crowned sparrow (*Zonotrichia leucophrys)*, black phoebe (*Sayornis nigricans)*, and yellow-rumped warbler (*Dendroica coronata*) have been observed foraging and perching in a variety of habitats in the project site and various passerine nests have been observed in the project site in the coyote brush scrub and in the salt bush along the southern boundary of the site. During the winter, the ponded seasonal wetlands provide suitable foraging habitat for migratory waterfowl, raptors, and passerines.

Black-tailed jackrabbit (*Lepus californicus*), house mice (*Mus musculus*), and Columbian black-tailed deer (*Odocoileus hemionus* var. *columbianus*) have been observed at the site. Additional common mammals likely to occur include coyote (*Canis latrans*), opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), and raccoons (*Procyon lotor*). Reptiles that may be present include gopher snake (*Pituophis melanoleuces*) and western fence lizard (*Sceloporus occidentalis*).

Sensitive Biological Resources

Special-Status Species

Special-status species are plants and animals that are legally protected under the federal and California Endangered Species Acts (FESA and CESA, respectively) or other regulations, and species that are considered rare by the scientific community, such as the CNPS.

Species were considered to be special-status if they met one or more of the following criteria:

- Listed, proposed for listing, or candidates for listing as threatened or endangered under FESA (50 CFR 17.12 [listed plants], 50 CFR 17.11 [listed animals], 67 CFR 40657 [candidate species], and various notices in the Federal Register [FR] [proposed species]);
- Listed or candidates for listing by the state of California as threatened or endangered under CESA, (Fish and Game Code § 2050 et seq.);
- Listed as rare under the California Native Plant Protection Act (Fish and Game Code § 1900 et seq.);
- Meets the definition of rare or endangered under the California Environmental Quality Act (CEQA, § 15380(b) and (d)).
- Species considered by CNPS to be "rare, threatened or endangered in California" (Lists 1A, 1B and 2). Only CNPS Lists 1 and 2 are considered to be "special-status" species because of their higher sensitivity to impacts.
- Considered a locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA § 15125 (c)) or is so designated in local or regional plans, policies, or ordinances

(State CEQA Guidelines, Appendix G). Examples include a species at the outer limits of its known range or a species occurring on an uncommon soil type;

- Identified by CDFW as species of special concern or fully protected species, including fish and wildlife that do not have state or federal threatened or endangered status but may still be threatened with extinction (CDFW 2011); or
- Otherwise defined as rare, threatened, or endangered under CEQA.

The term "special-status species" excludes those avian species solely identified under Section 10 of the MBTA for federal protection. Nonetheless, species protected under Section 10 of the MBTA are afforded avoidance and minimization measures per federal and state requirements and are therefore discussed along with the special-status species.

Special-Status Species with the Potential to Occur in the Project Areas

The Specific Plan EIR evaluated the potential for occurrence of 23 special-status wildlife species (see Table 4.3-1 of the Specific Plan EIR). The following species were determined to be absent from the Plan Area: vernal pool tadpole shrimp (*Lepidurus packardi*), monarch butterfly (*Danaus plexippus*), Central California coast steelhead (*Oncorhynchus mykiss*), Alameda whipsnake (*Masticophis lateralis euryxanthus*), San Francisco garter snake (T*hamnophis sirtalis tetrataenia*), great blue heron (*Ardea herodias*), snowy egret (*Egretta thula*), California black rail (*Laterallus jamaicensis coturniculus*), California clapper rail (*Rallus longirostris obsoletus*), western snowy plover (*Charadrius alexandrinus nivosus*), California least tern (*Sterna antillarun brownii*), bank swallow (*Riparia riparia*), Alameda song sparrow (*Melospiza melodia pusillula*), and salt marsh wandering shrew (*Sorex vagrans halicoetes*). Additionally, the Specific Plan EIR evaluated the potential occurrence of 34 special-status plant species in the Specific Plan area (Table 4.3-1 of the Specific Plan EIR), and determined that eight species have the potential to occur. The lists of plants and animals evaluated in the Specific Plan EIR, as well as current regionally occurring USFWS, CDFW, and CNPS lists of plants and animals were evaluated for the potential to occur in the project area or otherwise be impacted by development of the proposed project. Three special-status animal species and six special-status plant species have the potential to occur in the project area or otherwise be impacted by development of the proposed project. These species are listed in Table 4.3-2, *Potentially Occurring Special-status Species,* and discussed in detail in the following sections. Although salt marsh harvest mouse (SMHM) habitat does not occur in the project area, this species is also discussed. For specific methodology pertaining to the evaluation of special-status species with the potential to occur in the project site and off-site improvement areas and be impacted by implementation of the proposed project, refer to the Biological Resources Evaluation (HELIX 2015c).

Table 4.3-2
POTENTIALLY OCCURRING SPECIAL-STATUS SPECIES

Scientific Name/ Common Name	Federal Status	State/CNPS Status	Habitat Notes
PLANTS			
Astragalus tener var. *tener* alkali milk-vetch	None	None; 1B.2	The seasonal wetlands on the project site provide marginally suitable soil and hydrologic conditions for this species. No suitable habitat in the off-site improvement areas.
Atriplex joaquiniana San Joaquin spearscale	None	None; 1B.2	The non-native grassland and seasonal wetlands on the project site and off-site improvement areas provide marginally suitable soil and hydrologic conditions for this species.
Centromadia parryi spp. *congdonii* Congdon's tarplant	None	None; 1B.1	Some marginal habitat for this species occurs within the non-native grassland and ruderal/disturbed habitats on the project site and off-site improvement areas.
Eryngium aristulatum var. *hooveri* Hoover's button-celery	None	None; 1B.1	The seasonal wetlands on the project site and off-site improvement areas provide marginally suitable soil and hydrologic conditions for this species.
Lasthenia conjugens Contra Costa goldfields	Endangered	None; 1B.1	The non-native grassland and seasonal wetlands on the project site and off-site improvement areas provide marginally suitable soil and hydrologic conditions for this species.
Trifolium hydrophilum saline clover	None	None; 1B.2	The non-native grassland and seasonal wetlands on the project site and off-site improvement areas provide marginally suitable soil and hydrologic conditions for this species.
BIRDS			
Athene cunicularia burrowing owl	None	Species of special concern	Potential habitat occurs in the non-native grassland, ruderal/disturbed areas, and seasonal wetland habitats in the project site and off-site improvement areas.
Circus cyaneus northern harrier	None	Species of special concern	The project site and off-site improvement areas do not provide suitable nesting habitat for this species, however, foraging habitat is present in the project site and off-site improvement areas.

Table 4.3-2 (cont.)
POTENTIALLY OCCURRING SPECIAL-STATUS SPECIES

Scientific Name/ Common Name	Federal Status	State/CNPS Status	Habitat Notes
BIRDS (cont.)			
Geothlypis trichas sinuosa saltmarsh common yellowthroat	None	Species of special concern	Marginal nesting and foraging habitat for this species occurs in the project site along Drainage Ditch 1.
MAMMAL			
Reithrodontomys raviventris salt marsh harvest mouse	Endangered	Endangered	There is no suitable habitat for this species in the project site. See text for further discussion.

Source: California Rare Plant Rank (accessible online at <http://cnps.org/cnps/rareplants/ranking.php>)
Notes: 1B = Plants Rare, Threatened, or Endangered in California and Elsewhere
0.1 Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2 Moderately threatened in California (20-80 percent occurrences threatened / moderate degree and immediacy of threat)

Discussion of Special-Status Plant Species

The lists of regionally occurring special-status species obtained from the USFWS, California Natural Diversity Database (CNDDB), and CNPS identified nine special-status plant species with the potential to occur in the Newark USGS quadrangle (see Biological Resources Evaluation in Appendix E). Low to moderate quality habitat is present for six of the special-status plant species in the non-native grassland, seasonal wetlands, and/or ruderal/disturbed habitats in the project area. Contra costa goldfields is federally listed as endangered; none of the remaining five special status plants have any federal or state listing status. These six plant species are listed by the CNPS as rare and meet the criteria for evaluation under CEQA as explained in Section 4.3.3. Because the CNDDB contains reported occurrences of these six species in close proximity to the project area and low to moderate quality habitat is present in the project area, these species are discussed below.

Alkali milk-vetch (*Astragalus tener* var. *tener*)
Federal Status – None
State Status – None
Other – CNPS List 1B.2
Alkali milk-vetch is an annual herb that occurs in alkaline habitats of playas, valley and foothill grasslands (adobe clay soils), and vernal pools at elevations that range from 3 to 197 feet amsl. Specifically, this species occurs within low ground, alkali flats, and flooded land in annual grassland or in playas or vernal pools. The known range of this species includes Alameda, Contra Costa, Merced, Monterey, Napa, San Benito, Santa Clara, San Francisco, San Joaquin, Solano, Sonoma, Stanislaus, and Yolo Counties.

Deeper portions of the seasonal wetlands on the project site and off-site improvement areas, where the vegetation is sparse or bare, provide marginally suitable soil and hydrologic conditions for this species. There is no documented occurrence of this species in or adjacent to the project site or off-site improvement areas. This species was not observed during focused botanical

surveys of the project area. Because the project site and off-site improvement areas only provides marginally suitable habitat for this species and it was not observed during focused botanical surveys during the blooming season, it is presumed absent from the project site and off-site improvement areas.

San Joaquin Spearscale (*Atriplex joaquiniana*)
Federal Status – None
State Status – None
Other – CNPS List 1B.2
San Joaquin spearscale is an annual herb that occurs on alkaline soils within chenopod scrub, meadows and seeps, playas, and valley and foothill grassland at elevations from 3 to 2,740 feet amsl. The known range of this species includes Alameda, Contra Costa, Colusa, Fresno, Glenn, Merced, Monterey, Napa, San Benito, Santa Clara, and San Joaquin counties.

The non-native grassland and seasonal wetlands in the project site and off-site improvement areas provide marginally suitable soil and hydrologic conditions for this species. There is no documented occurrence of this species in or adjacent to the project site or off-site improvement areas, and this species was not observed during focused botanical surveys of the project area. Because the project site and off-site improvement areas only provide marginally suitable habitat for this species and it has not been observed on the project site or adjacent properties, San Joaquin spearscale is presumed absent from the project site and off-site improvement areas.

Congdon's Tarplant (*Centromadia parryi* spp. *congdonii*)
Federal Status – None
State Status – None
Other – CNPS List 1B.1
Congdon's tarplant is an annual herb that occurs in alkaline soils of valley and foothill grassland at elevations that range from 0 to 755 feet amsl. The known range of this species includes Alameda, Contra Costa, Monterey, Santa Clara, Santa Cruz, San Luis Obispo, San Mateo, and Solano Counties.

Some marginal habitat for this species occurs within the non-native grassland and ruderal/disturbed habitats in the project site and off-site improvement areas. A population of this species was documented in 2003 at a site located approximately 0.2 mile northeast of the project area (CDFW 2014a). This species was not observed during focused botanical surveys of the project site and off-site improvement areas. Since only marginally suitable habitat is present for this species and it was not observed during focused botanical surveys during the blooming season, it is presumed absent from the project site and off-site improvement areas.

Hoover's button-celery (*Eryngium aristulatum* var. *hooveri*)
Federal Status – None
State Status – None
Other – CNPS List 1B.1
Hoover's button-celery is an annual or perennial herb that occurs in vernal pools ranging from 9 to 148 feet amsl. The known range of this species includes Alameda, San Benito, Santa Clara, San Diego, and San Luis Obispo.

Portions of the seasonal wetlands in the project site where the vegetation is sparse or bare provide marginally suitable soil and hydrologic conditions for this species; suitable habitat is not present in the seasonal wetlands in the off-site improvement areas. A population of this species was documented in 2011 and 2013 at seasonal wetlands approximately 0.25 mile northeast of the project site. This species was not observed during focused botanical surveys of the project site and off-site improvement areas; however, additional surveys during the bloom period are required. Since only marginally suitable habitat is present for this species and it was not observed during focused botanical surveys during the blooming season, Hoover's button-celery is not expected to occur in the project site and off-site improvement areas.

Contra Costa goldfields (*Lasthenia conjugens*)
Federal Status – Endangered
State Status – None
Other – CNPS List 1B.1
Contra Costa goldfields was federally listed as endangered on June 18, 1997 (62 FR 33029 33038), with critical habitat established in 2003 (71 FR 7118 7316; 70 FR 46924 46999; 68 FR 46684 46732). This species is an annual herb that occurs in vernal pools, swales, moist flats, and depressions within a grassland matrix, although this species is also known from the saline-alkaline transition zone between vernal pools and tidal marshes on the eastern margin of the San Francisco Bay and evaporating ponds used to concentrate salt (USFWS 2006). Suitable habitats range from 0 to 1,542 feet amsl. The known range of this species includes Alameda, Contra Costa, Mendocino, Monterey, Marin, Napa, Santa Barbara, Santa Clara, Solano, and Sonoma Counties.

The seasonal wetlands in the project site and off-site improvement areas provide marginally suitable soil and hydrologic conditions for this species. There is no documented occurrence of this species in or adjacent to the project site or off-site improvement areas, and this species was not observed during focused botanical surveys during the bloom period for this species. Because the project site and off-site improvement areas only provide marginally suitable habitat for this species and it has not been observed on the project site or adjacent properties, Contra Costa gold fields is presumed absent from the project site and off-site improvement areas.

Saline Clover (*Trifolium hydrophilum*)
Federal Status – None
State Status – None
Other – CNPS List 1B.2
Saline clover is an annual herb that occurs in marshes and swamps, mesic, alkaline sites within valley and foothill grassland, and vernal pools at an elevation of 0 to 985 feet amsl. The known range of this species includes Alameda, Contra Costa, Mendocino, Monterey, Marin, Napa, Santa Barbara, Santa Clara, Solano, and Sonoma Counties.

The non-native grassland and seasonal wetlands on the project site and off-site improvement areas provide marginally suitable soil and hydrologic conditions for this species. A population of this species was documented in 2004 approximately 0.2 mile northeast of the project site. This species was not observed during focused botanical surveys of the project site and off-site improvement areas. Because the project site and off-site improvement areas only provide marginally suitable habitat for this species, and the surrounding areas have been previously

developed and disturbed, saline clover is presumed absent from the project site and off-site improvement areas.

Discussion of Special-Status Animal Species

The lists from USFWS and CNDDB identified two invertebrate species, eight fish species, two amphibian species, one reptile species, 12 bird species, and three mammal species meeting the criteria of special-status species with the potential to occur in the Newark USGS quadrangle (see the Biological Resources Evaluation in Appendix E). Three of the special-status animal species have the potential to occur in the project site and are discussed below. Although it has been determined to have no potential to occur in the project site or be impacted by the proposed project as the result of a habitat assessment conducted for the proposed project, SMHM is also discussed. The habitat assessment is included in Appendix C of the Biological Resources Evaluation (Appendix E).

Burrowing Owl (*Athene cunicularia*)
Federal Status – None
State Status – SSC
Other – None
Burrowing owls are often found in open, dry grasslands, agricultural and range lands, and desert habitats. They can also inhabit grass, forb, and shrub stages of pinyon and ponderosa pine habitats. Burrowing owls occur at elevations ranging from 200 feet below mean sea level to over 9,000 feet amsl. In California, the highest elevation where burrowing owls are known to occur is 5,300 feet amsl in Lassen County. In addition to natural habitats, burrowing owls can be found in urban habitats such as at the margins of airports and golf courses and in vacant urban lots. Burrowing owls nest in underground burrows and commonly perch on nearby fence posts or mounds. The owls also use ground squirrel burrows, badger dens or artificial burrows such as abandoned pipes or culverts. Breeding pairs have been consistently documented using agricultural canal berms in rice growing areas (ICF International [ICF], 2012). Although the more northern burrowing owl populations migrate seasonally, burrowing owls are year-round residents in much of California.

The non-native grassland, ruderal/disturbed habitats, and seasonal wetlands on the project site and off-site improvement areas provide suitable habitat for this species. The project site and off-site improvement areas contain numerous ground squirrel (*Otospermophilus beecheyi*) burrows that could potentially be used by burrowing owl for nesting or stopover during winter migration. There are several reported occurrences of burrowing owls within 5 miles of the project site, in which pairs and juveniles have been observed. The nearest extant reported occurrence was of active burrows with adult pairs and juveniles observed between 1998 and 2005 approximately 2 miles east of the project site. Protocol burrowing owl surveys of the project site indicated past use of a burrow on the site, but the use appeared to be from a solitary bird for a short period of time. No evidence of active use of the project site or off-site improvement areas has been observed during protocol surveys.

Barn owls and red-tailed hawks have been observed foraging over the project site. These raptors are natural predators of burrowing owls. Barn owl boxes are present throughout the area that is proposed for open space and will remain in place following project construction. As a result,

suitable opportunities for barn owls will remain on the project site during and following construction. The presence of these species would be expected to preclude burrowing owl from using the area, for nesting in particular.

Northern Harrier (*Circus cyaneus*)
Federal Status – None
State Status – SSC
Other – None
Northern harriers breed and forage in a variety of treeless habitats including freshwater marshes, brackish and saltwater marshes, wet meadows, weedy borders of lakes, rivers and streams, annual and nonnative grasslands, weed fields, croplands pastures, sagebrush flats, and desert sinks. The bird nests on the ground, often in patches of dense, tall, vegetation in undisturbed areas along a marsh edge. Plant species composition varies by site, but the nest is built on a large mound if sticks. The breeding season for northern harrier is from March to August (Shuford, et. al. 2008).

The project site and the off-site improvement areas provide foraging habitat for northern harrier; however, suitable nesting habitat is not present. Northern harrier has been repeatedly observed foraging over the project site during the numerous biological surveys at the site.

Saltmarsh Common Yellowthroat (*Geothlypis trichas sinuosa*)
Federal Status – None
State Status – SSC
Other – None
The saltmarsh common yellowthroat breeds in brackish marsh, freshwater marsh, and woody swamps. This species may occur in relatively isolated patches of habitat, including swales and seeps where groundwater is close to the surface. Nests of this species are constructed near the ground in grasses, herbaceous vegetation, cattails (*Typha* spp.), tules (*Schoenoplectus* spp.), and shrubs (e.g., *Baccharis pilularis*) (Shuford, et. al. 2008). This species occupies its breeding range year round. The breeding season is mid-March to late July.

An approximately 40-foot-wide strip of relatively dense herbaceous vegetation occurs along the east bank of Drainage Ditch 1 near the southern boundary of the project site. This segment of the ditch contains relatively permanent water, which combined with the vegetation, provides marginal habitat for this species. No habitat for saltmarsh common yellowthroat is present in the off-site improvement areas. There are several reported occurrences saltmarsh common yellowthroat occurring within 5 miles of the project area. The nearest is along Newark Slough, approximately 0.75 mile northwest of the project site, where this species was observed nesting in a marsh. Saltmarsh common yellowthroat has not been observed at the project site during the numerous biological surveys that have been conducted at the project site.

Salt Marsh Harvest Mouse (*Reithrodontomys raviventris*)
Federal Status – Endangered
State Status – Endangered
Other – None
SMHM is endemic to tidal and brackish marsh habitats of the San Francisco Bay region. Salt marsh harvest mice are primarily found in the salt marshes along the northern San Pablo Bay,

surrounding the Suisun Bay, and along the southern San Francisco Bay (USFWS 1984). The SMHM is critically dependent on dense cover and its preferred habitat is pickleweed. In marshes with an upper zone of halophytes, it uses this vegetation to escape high tides, and may also move into adjoining grasslands during the highest winter tides.

Based on the results of a habitat assessment and small mammal live-trapping study conducted on the project site, the project site does not contain suitable habitat for SMHM and none was captured during the trapping study. A separate habitat assessment of the Hickory Street ROW, 'A' Avenue, and culvert replacement site indicated these off-site areas do not contain suitable habitat for SMHM. The Enterprise Drive ROW does not contain pickleweed, so no potentially suitable habitat is present. The project site habitat assessment and small mammal live-trapping study, and the off-site improvement area habitat assessment are included in Appendices C, F, and G, respectively of the attached Biological Resources Evaluation (Appendix E).

Nesting Raptors

The project site and off-site improvement areas provide foraging habitat for a variety of raptor species and various raptor species have the potential to utilize utility line towers, owl boxes, or trees in the study area for nesting. In addition to northern harriers, red-tailed hawks and barn owl were observed in the project site during biological surveys.

Passerines and Other Migratory Birds

Several species of passerines birds and birds protected by the MBTA (16 USC 703-712) such as rufous-crowned sparrow, white-crowned sparrow, black phoebe, and yellow-rumped warbler have been observed foraging and perching in a variety of habitats in the project site and various passerine nests have been observed in the project site in the coyote brush scrub and in the salt bush along the southern boundary of the site. Trees and large shrubs in and immediately adjacent to the Enterprise Drive ROW provide potential nesting opportunities for passerines.

Potential Waters of the U.S./State

A total of 15.25 acres of aquatic habitat were identified on the project site consisting of eight seasonal wetlands two man-made drainage ditches (Drainage Ditches 1 and 2), an unvegetated ponded depression, and the aquatic portions of the industrial settling basins (Figure 4.3-2, *Jurisdictional Areas*). All of the 15.25 acres of aquatic habitat on the project site were identified as potential waters of the U.S. in the jurisdictional delineation prepared by HELIX (HELIX 2015d) which is included as Appendix B of the Biological Resources Evaluation (HELIX 2015c; Appendix E), which has been submitted to the USACE. The acreages of wetlands and other waters in the project site are preliminary and subject to change pending approval by the USACE. All potential waters of the U.S. on the project site are considered to be potential waters of the State under jurisdiction of the State Water Resources Control Board. There are no potential waters of the State in addition to the potential waters of the U.S. on the project site.

An estimated 0.40 acre of wetlands and other waters were mapped in the Hickory Street ROW comprised of two seasonal wetlands (referred to as Seasonal Wetlands A and B), and one constructed drainage ditch (referred to as Drainage Ditch A). Seasonal Wetland A and Drainage

Ditch A were delineated by HELIX in October 2014 (HELIX 2015e), which is included in Appendix H of the Biological Resources Evaluation (HELIX 2015c; Appendix E), and has been submitted to the USACE for approval. Seasonal Wetland B falls within the off-site improvement area for the Torian property and was delineated in 2010 by Zentner and Zentner (Zentner and Zentner 2010) and verified by the USACE (File No. 2010-00230S). The acreage of the portion of Seasonal Wetland B within the Hickory Street ROW was estimated for the purposes of this report based on aerial photography and the delineation for the Torian property prepared by Zentner and Zentner (2010).

A total of 0.07 acre of wetlands (referred to as Seasonal Wetlands C and D) were mapped in 'A' Avenue. A portion of Seasonal Wetland C extends into the Hickory Street ROW; however, the majority of the feature is within 'A' Avenue, so the total acreages of that feature are presented under 'A' Avenue.

A total of 0.03 acre of wetlands and other waters were mapped in the culvert replacement site, comprised of one seasonal wetland (referred to as Seasonal Wetland E), and one constructed drainage ditch (referred to as Drainage Ditch B).

No potential waters of the U.S. occur in the Enterprise Drive ROW.

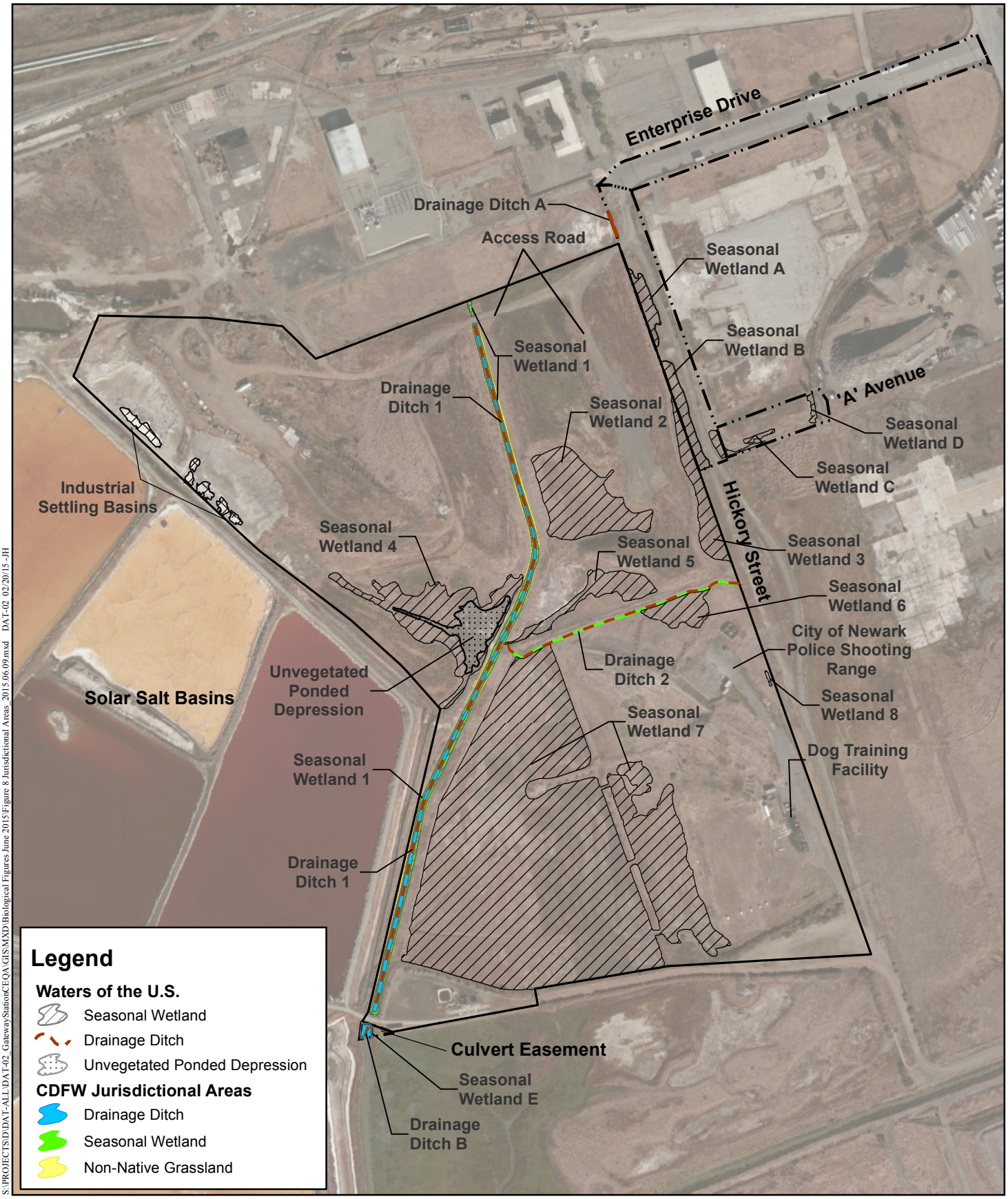
All of the 0.50 acre of wetlands and other waters in the off-site improvement areas are potential waters of the U.S., pending verification by the USACE. All potential waters of the U.S. in the off-site improvement areas are also considered to be potential waters of the State. There are no potential waters of the State in addition to the potential waters of the U.S. in the off-site improvement areas.

Potential CDFW Jurisdiction

Section 1600 et seq. of the Fish and Game Code regulates activities affecting rivers, streams, and lakes where fish or wildlife resources may be adversely affected. Streambeds within CDFW jurisdiction are based on the definition of a stream as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supporting fish or other aquatic life" (CCR Vol. 18 Title 14, Section 1.72).

The two man-made drainage ditches on the project site provide seasonal flows, and the drainage ditch in the culvert easement is a tidally influenced perennial waterway. These drainages are considered to be potentially regulated by the CDFW and the limits of potential CDFW jurisdiction associated with these drainages were defined by the top of bank. Refer to Figure 4.3-2 for the limits of the streambed (seasonal or perennial flows), together with their banks, in the project site. A total of 1.03 acres of habitat potentially regulated by CDFW occur in the project site, and an additional 0.03 acre of habitat potentially regulated by CDFW occurs in the culvert replacement site. These acreages are subject to change, and the actual limits of CDFW jurisdiction will be determined through subsequent coordination with CDFW.

Portions of the drainage ditches below the ordinary high water mark and the adjacent seasonal wetlands are also considered waters of the U.S./State, and are referred to as Drainage Ditches 1, 2, and B; and Seasonal Wetlands 1and E on Figure 4.3-2). Areas of non-native grassland along Drainage Ditch 1 are above the ordinary high water mark, but still within the bank of the ditch,



S:\PROJECTS\D\DAT-ALL\DAT-02_GatewayStationCEQA\GIS\MXD\Biological Figures June 2015\Figure 8 Jurisdictional Areas_2015.06.09.mxd DAT-02 02/20/15 -JH

Base Map: Esri (2014) Map Date:06-19-2015

Jurisdictional Areas

GATEWAY STATION WEST

HELIX Environmental Planning

N 0 350 Feet

Figure 4.3-2

and are also under CDFW jurisdiction. The northern extension of Drainage Ditch 1 and the entirety of Drainage Ditch 2 are mapped as seasonal wetland because they lack well-defined bed and bank, but are subject to periodic flow and they support hydrophytic plants such as Pacific swampfire, opposite leaf Russian thistle, and red saltwort as well as hydrophytic grasses. Table 4.3-3, *Habitats Potentially Regulated by CDFW,* provides the acreages of potential CDFW jurisdictional features in the project site and off-site improvement areas.

Table 4.3-3
HABITATS POTENTIALLY REGULATED BY CDFW

Feature		Area[1] (acres)
Drainage Ditch 1	Drainage Ditch	0.37
	Seasonal wetland	0.41
	Ruderal	0.17
	Subtotal	*0.95*
Drainage Ditch 2		0.08
	Total in project site	***1.03***
Drainage Ditch B	Drainage Ditch	0.03
	Seasonal wetland	<0.01
	Total in Culvert Replacement Site	***0.03***
	TOTAL	**1.06**

[1]Rounded to nearest one-hundredth of an acre.

Protected Trees

Two trees meeting the criteria for protection under the City Municipal Code were identified on the project site – both are non-native silver dollar gum trees (*Eucalyptus polyanthemos*). The two gum trees are located adjacent to the dog training facility in the southeast corner of the site, and are generally in good condition. In addition, one California fan palm (*Washingtonia filifera*) meeting the criteria for protection under the City Municipal Code occurs within the Hickory Street ROW. The Certified Arborist Tree Inventory Technical Memorandum for the project site and Hickory Street ROW, including a Tree Location Map documenting the location of the protected trees in the project area and the Arborist Survey Data Form containing the data associated with each tree inventoried is included as Appendix A of the Biological Resources Evaluation (Appendix E). Two California fan palms, two shamel ash trees (*Fraxinus uhdei*), and one acacia (*Acacia* sp.) meeting the criteria for protection under the Municipal Code are located in the Enterprise Drive ROW.

4.3.2 Regulatory Setting

Regulations pertaining to the protection of biological resources on the project site and vicinity are summarized in the following subsections.

Federal

Federal Endangered Species Act

The USFWS enforces the provisions stipulated within the Federal Endangered Species Act of 1973 ([FESA] 16 United States Code [USC] Section 1531 et seq.). Species listed as federally threatened or endangered (50 CFR Section 17.11, and 17.12) are protected from take, defined to include direct or indirect harm, unless a Section 10 permit is granted to an entity other than a federal agency or a Biological Opinion with incidental take provisions is rendered to a federal lead agency via a Section 7 consultation. Pursuant to the requirements of the FESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federally-listed species may be present on the project site and whether the proposed project may affect them and, thus, whether it should consult with the USFWS under Section 7 of the FESA. Under the FESA, habitat loss is considered to be an impact to a species. In addition, the USFWS is required to determine whether the project is likely to jeopardize the continued existence of any species that is proposed for listing under the FESA or to result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC 1536[3], [4]).

Migratory Bird Treaty Act

Under the Executive Order 13186: Migratory Bird Treaty Act of 1918 (MBTA) (16 USC Subsections 703 to 712), migratory bird species, their nests and eggs are protected from injury or death; these species are listed at 50 CFR Section 10.13. Project related disturbances must be reduced or eliminated during the breeding season.

State

California Endangered Species Act

The California Endangered Species Act ([CESA] California Fish and Game Code Sections 2050 to 2097) is similar to the FESA. The California Fish and Game Commission is responsible for maintaining lists of threatened and endangered species under the CESA. CESA prohibits the take of listed and candidate (petitioned to be listed) species. "Take" under California law means to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch capture, or kill (California Fish and Game Code Section 86). In its review of a proposed project, the CDFW assesses whether a project would result in the take of listed species during construction or over the life of the project. The CDFW can authorize take of a state-listed species under Section 2081 of the California Fish and Game Code if the take is incidental to an otherwise lawful activity, the impacts are minimized and fully mitigated, funding is ensured to implement and monitor mitigation measures, and CDFW determines that issuance would not jeopardize the continued existence of the species. For species listed under both the FESA and the CESA requiring a Biological Opinion under Section 7 of the FESA, CDFW may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

California Code of Regulations and California Fish and Game Code

The official listing of endangered and threatened animals and plants is contained in the California Code of Regulations Title 14 § 670.5. A state candidate species is one that the California Fish and Game Code has formally noticed as being under review by CDFW for inclusion on the state list pursuant to Sections 2074.2 and 2075.5 of the California Fish and Game Code.

Legal protection is also provided for wildlife species in California that are identified as "fully protected" animals. These species are protected under Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fishes) of the California Fish and Game Code. These statutes prohibit take or possession of fully protected species at any time. The CDFW is unable to authorize incidental take of fully protected species when activities are proposed in areas inhabited by these species. The CDFW has informed non-federal agencies and private parties that they must avoid take of any fully protected species. However, Senate Bill (SB) 618 (2011) allows the CDFW to issue permits authorizing the incidental take of fully protected species under the CESA, so long as any such take authorization is issued in conjunction with the approval of a Natural Community Conservation Plan that covers the fully protected species (California Fish and Game Code Section 2835).

California Environmental Quality Act

Under CEQA (PRC Section 21000 et seq.), lead agencies analyze whether projects would have a substantial adverse effect on fish and wildlife species (PRC Section 21001(c)).

If the lead agency finds that the project may have certain types of effects on species, including substantially reduce the number or restrict the range of an endangered, threatened, or rare species, it must determine the impact to be potentially significant and prepare an EIR (15 CCR § 15065(a)). A species is considered endangered, threatened, or rare if it is listed under the FESA or the CESA or, even though not listed, meets the criteria prescribed in the State CEQA Guidelines Section 15380, i.e., (1) its survival and reproduction in the wild are in immediate jeopardy from one or more causes, (2) although not presently threatened with extinction, is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens, or (3) is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered "threatened" as that term is used in the FESA.

Lead agencies commonly characterize endangered, threatened, and rare species and certain other species included by some agencies or organizations on watch lists or the like as "special status species" and analyzed a project's effects on those species. The California Native Plant Society (CNPS) inventories the native flora of California and ranks species according to rarity; plants ranked by the CNPS as 1A, 1B, and 2 are generally considered special-status species under CEQA.[1]

[1] The CNPS rare plant ranking system can be found online at < http://www.cnps.org/cnps/rareplants/ranking.php>

California Native Plant Protection Act

The California Native Plant Protection Act of 1977 (California Fish and Game Code Sections 1900 to 1913) requires all state agencies to use their authority to implement programs to conserve endangered and otherwise rare species of native plants. Provisions of the act prohibit the taking of listed plants from the wild and, in certain circumstances, require notification of CDFW at least 10 days in advance of any change in land use other than changing from one agricultural use to another, which allows CDFW to salvage listed plants that would otherwise be destroyed.

Nesting Birds

California Fish and Game Code Subsections 3503 and 3800 prohibit the possession, incidental take, or needless destruction of birds, their nests, and eggs. California Fish and Game Code Subsection 3503.5 protects all birds in the orders Falconiformes and Strigiformes (birds of prey). California Fish and Game Code Section 3511 lists birds that are "fully protected" as those that may not be taken or possessed except under specific permit.

Local

Dumbarton Transit Oriented Development Specific Plan

As mentioned above, the Gateway Station West Project is within the Dumbarton TOD Specific Plan area. A Final EIR (State Clearinghouse No. 2010042012) was prepared and certified, and the Specific Plan adopted for the area by the City of Newark. For most parcels within the Specific Plan area (including the subject Gateway Station West Project site), the evaluation conducted for the Dumbarton TOD Specific Plan EIR was programmatic. That EIR requires project-specific studies and documentation to be completed for subsequent development in the Specific Plan area consistent with the requirements of CEQA. The Specific Plan EIR also contains measures to avoid, minimize, or mitigate potential impacts to biological resources in its Mitigation, Monitoring, and Reporting Program (MMRP) that are required to be implemented by applicants proposing future projects in the Specific Plan area.

Municipal Code

Chapter 18.16 of the City of Newark Municipal Code: *Preservation of Trees on Private Property* states: No person shall cut down, destroy, remove or move any tree, which shall include any live woody plant having one or more well defined perennial stems with a trunk diameter of 6 inches or greater measured at 4 feet above ground level, growing within the City limits on any parcels of land except developed residential parcels of land 10,000 SF or less in area, unless a permit to do so has been obtained from the Public Works Director (Ordinance 63 § 2 (part), 1979).

Jurisdictional Waters

Federal Requirements

Any person, firm, or agency planning to undertake certain activities in waters of the U.S., including the discharge of dredged or fill material, generally must first obtain authorization from the USACE under Section 404 of the CWA (33 USC 1344). Permits, licenses, variances, or similar authorization may also be required by other federal, state, and local statutes. Section 10 of the Rivers and Harbors Act of 1899 prohibits the obstruction or alteration of navigable waters of the U.S. without a permit from USACE (33 USC 403).

Waters of the U.S. are defined as: (1) all waters used in interstate or foreign commerce; (2) all interstate waters including interstate wetlands; (3) all other waters such as intrastate lakes, rivers, streams, mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds, where the use, degradation, or destruction of which could affect interstate commerce; (4) impoundments of these waters; (5) tributaries of these waters; or (6) wetlands adjacent to these waters (33 CFR Part 328). With non-tidal waters, in the absence of adjacent wetlands, the extent of USACE jurisdiction extends to the ordinary high water mark (OHWM), the line on the shore established by fluctuations of water and indicated by a clear, natural line impressed on the bank, shelving, changes in soil character, destruction of terrestrial vegetation, or the presence of litter and debris. Wetlands are defined in 33 CFR Part 328 as:

> Those areas that are inundated or saturated by surface or ground water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Federal and state regulations pertaining to waters of the U.S., including wetlands, are discussed below.

Clean Water Act (33 USC 1251-1376). The CWA provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. Section 401 of the CWA requires that an applicant for a federal license or permit that allows activities resulting in a discharge to waters of the U.S. obtain a state certification that the discharge complies with other provisions of CWA. The CalEPA's State Water Resources Control Board (SWRCB) administers the certification program in California, and may require a Section 401 Water Quality Certification before other permits can be issued. Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the U.S.

Section 404 of the Clean Water Act (CWA; 33 USC 1344). Section 404 establishes a permit program administered by USACE that regulates the discharge of dredged or fill material into waters of the U.S. (including wetlands). Implementing regulations by USACE are found at 33 CFR Parts 320-332. The Section 404 (b)(1) Guidelines were developed by the USEPA in conjunction with USACE (40 CFR Part 230), allowing the discharge of dredged or fill material for non-water dependent uses into special aquatic sites only if there is no practicable alternative

that would fulfill the overall project purpose and have less adverse impacts on the aquatic ecosystem without having other significant environmental consequences.

State Requirements

Porter-Cologne Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act, Water Code Section 13000 et seq.) is California's statutory authority for the protection of water quality in conjunction with the federal CWA. The Porter-Cologne Act requires the SWRCB and its RWQCBs to adopt and periodically update water quality control plans, or basin plans. Basin plans establish beneficial uses, water quality objectives, and implementation for the nine regions of California. The Porter-Cologne Act also requires dischargers of pollutants, dredged or fill material to notify the RWQCB of such activities by filing Reports of Waste Discharge and authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements, NPDES permits, Section 401 Water Quality Certifications, or other approvals.

Section 1600 et seq. of the California Fish and Game Code

Diversions or obstructions of the natural flow of, or substantial changes or use of material from the bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by CDFW, pursuant to Section 1600 et seq. of the California Fish and Game Code. The CDFW requires notification prior to commencement of any such activities, and a Streambed Alteration Agreement (SAA) pursuant to Fish and Game Code Sections 1601 to 1603, if the activity may substantially adversely affect an existing fish and wildlife resource.

4.3.3 Environmental Analysis

Significance Thresholds

The Dumbarton TOD Specific Plan EIR identified the following thresholds of significance from Appendix G of the State CEQA Guidelines for adverse significant impacts to biological resources. According to Appendix G of the State CEQA Guidelines, the proposed project would have significant impacts on biological resources if it would:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS.

2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS.

3. Have a substantial adverse effect on federally protected wetlands or other waters of the US as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

4. Interfere substantially with the movement of any native resident or migratory fish or impede the use of native wildlife nursery sites.

5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

6. Conflict with the provisions of an adopted HCP, Natural Community Conservation Plan or other approved local, regional, or state HCP.

Clean Water Act/Porter-Cologne Water Quality Control Act

Pursuant to Section 404 of the Clean Water Act, the USACE regulates the discharge of dredged or fill material into waters of the U.S., which includes wetlands as discussed in the bulleted item above, and also includes "other waters" (stream channels, rivers; 33 CFR Parts 328 through 330). Substantial impacts on USACE regulated areas of a project site would be considered a significant adverse impact. Similarly, pursuant to Section 401 of the Clean Water Act, and to the Porter-Cologne Water Quality Control Act, the RWQCB regulates impacts to waters of the state. Thus, substantial impacts on RWQCB regulated areas on a project site would also be considered a significant adverse impact.

Section 1600 et seq. of the California Fish and Game Code

Pursuant to Section 1600 et seq. of the California Fish and Game Code, CDFW regulates activities that divert, obstruct, or alter stream flow, or substantially modify the bed, channel, or bank or a stream which CDFW typically considers to include riparian vegetation. Any proposed activity that would result in substantial modifications to a natural stream channel would be considered a significant adverse impact.

Municipal Code

Chapter 18.16 of the City Municipal Code: *Preservation of Trees on Private Property* regulates the cutting down, destruction, or removal of any tree, which shall include any live woody plant having one or more well defined perennial stems with a trunk diameter of 6 inches or greater measured at 4 feet above ground level, growing within the City limits on any parcels of land except developed residential parcels of land 10,000 SF or less in area, unless a permit to do so has been obtained from the Public Works Director (Ordinance 63 § 2 (part), 1979). Any proposed activity that would result in cutting down, destruction, or removal of any tree protected by the City of Newark Municipal Code would be considered a significant adverse impact.

Summary of Findings from the Dumbarton TOD Specific Plan EIR

The Specific Plan EIR concluded that implementation of the Specific Plan could result in significant impacts to waters of the U.S./State, protected trees, special-status plants, and special-status wildlife including nesting raptors, SMHM, western burrowing owl, tricolored blackbird, saltmarsh common yellowthroat, and other nesting passerine birds. The Specific Plan EIR included mitigation measures that require project-specific biological surveys be conducted prior to implementation of any individual project within the Specific Plan area as well as other measures designed to reduce potential impacts to biological resources to less than significant

levels through avoidance of special-status species and avoidance or compensation for impacts to waters of the U.S./State and protected trees. Potential impacts to these biological resources as a result of the proposed project are evaluated in this SEIR.

The Specific Plan EIR also concluded that implementation of the Specific Plan would result in no impacts to Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local regional, or state habitat conservation plans (CEQA threshold 6, above), and would have a less than significant impact on wildlife corridors (CEQA threshold 4, above). These types of biological resources impacts are not evaluated further in this SEIR.

Impact Analysis

Impacts to Special-Status Plants

As required by MM 4.3-5 in the Dumbarton TOD Specific Plan EIR, special-status plant surveys were conducted in the project site and off-site improvement areas during the appropriate period in which the species are most identifiable in compliance with all CDFW, USFWS, and CNPS published survey guidelines. Based on the results of the surveys, the project site and the off-site improvement areas do not support special-status plants; however a blooming period survey for Hoover's button celery prior to construction is required. Due to the marginally suitable habitat present, this species is not expected to occur in the project site or off-site improvement areas; however, if it does occur, it could be impacted by ground disturbing activities that would remove individual plants and its habitat. No impacts to other special-status plants are anticipated to occur as a result of the proposed project.

The results of rare plant surveys are typically considered valid for two blooming seasons after the surveys are conducted. If development of the site and off-site improvement areas commences prior to the end of summer of 2017, no further mitigation measures are required for special-status plant species. If development of the site does not commence prior to the end of summer 2017, rare plant surveys should be re-conducted to verify presence/absence of special-status plant species prior to ground disturbance.

Impacts to Special-Status Wildlife

Western Burrowing Owl

No burrowing owl was observed during protocol surveys of potential nesting areas on the project site and off-site improvement areas. However, if burrowing owl was to occupy the site prior to protect implementation, development of the project site and off-site improvement areas may result in potential impacts to western burrowing owl, including loss of nesting and foraging habitat, disturbance to nesting birds, and possibly death of adults and/or young.

If burrowing owls occupy suitable habitat in the open space area following construction, they may be affected by the nearby development. Construction of the proposed project would increase the number of people in close vicinity to potentially suitable habitat, and associated potential impacts would include harassment from increased noise and activity in the vicinity of potentially suitable habitat, degradation of habitat from litter and light spillover from the nearby

development, and the potential for increased predation as a result of increased domestic and feral cats and dogs associated with development.

Northern Harrier and Other Nesting Raptors (except Western Burrowing Owl)

The project site and off-site improvement areas provides foraging habitat for northern harrier; however, suitable nesting habitat is not present. Construction of the proposed project would result in loss of potential foraging habitat for northern harrier, in the project footprint. The Plummer Creek Wetland Mitigation Bank south of the project site appears to provide suitable nesting habitat for northern harrier. Eucalyptus trees, barn owl boxes, and utility line towers on the project site and adjacent areas provide potential nesting habitat for red-tailed hawk and other raptors. If construction of the proposed project commences during the nesting period for northern harrier or other raptors, construction activities and construction-related disturbance (noise, vibration, increased human activity) could adversely affect these species if they were to nest in the project site or in suitable habitat in close proximity to the project area (e.g., the Plummer Creek Wetland Mitigation Bank south of the project site).

Similar to the impacts described for burrowing owl, construction of the proposed project would increase the number of people in close vicinity to potentially suitable nesting and foraging habitat for northern harrier and other nesting raptors. Associated potential impacts would include harassment from increased noise and activity in the vicinity of potentially suitable habitat, degradation of habitat from litter and light spillover from the nearby development, and the potential for increased predation as a result of increased domestic and feral cats, dogs, and other predatory pets associated with development.

Saltmarsh Common Yellowthroat, Nesting Passerines and Migratory Birds

The proposed project includes removal of vegetation that provides potential nesting habitat for nesting passerines and migratory birds protected by the MBTA (16 USC 703-712). Project construction activities could potentially result in adverse impacts to nesting birds if construction of the proposed project commences during the typical nesting period for passerines and other migratory birds. Construction activities and construction-related disturbance (noise, vibration and increased human activity) could adversely affect these species if they were to nest in or adjacent to the project area.

Potentially suitable nesting habitat for saltmarsh common yellowthroat is located along the southernmost portion of the north/south drainage ditch, which falls within the open space area. The only project-related activities that would occur in the open space area are associated with site remediation activities in which the bottom of the ditch will be excavated along its entire length prior to construction. No adjacent vegetation will be removed for this activity; so there would be no loss of potential nesting habitat along the banks of the ditch; however, remediation activities could adversely affect saltmarsh common yellowthroat and other species nesting in the area. Once the area is remediated, the culvert in the culvert replacement site would be installed and the existing barrier that prevents flows from leaving the project site would be removed, allowing connectivity with the tidally-influenced downstream portion of the channel. Natural habitat along the drainage ditch would be expected to improve as a result of the post-project connectivity.

Construction of the proposed project would increase the number of people in close vicinity to potentially suitable nesting and foraging habitat for saltmarsh common yellowthroat and other nesting passerines. Similar to those identified for burrowing owl, associated potential impacts would include harassment from increased noise and activity in the vicinity of potentially suitable habitat, degradation of habitat from litter and light spillover from the nearby development, and the potential for increased predation as a result of increased domestic and feral cats, dogs, and other predatory pets associated with development.

Salt Marsh Harvest Mouse

The Specific Plan EIR found that the Specific Plan area was unlikely to provide suitable habitat for the SMHM, but prescribed MM 4.3-1 requires project-specific habitat assessments for the mouse to determine its potential to occur prior to implementation of individual projects.

MM 4.3-1 specifies that prior to any site grading or development of properties within the Specific Plan area (except the Torian Property located directly south of the study area), a habitat assessment must be conducted for SMHM to determine if the parcel where work is proposed provides suitable habitat for the mouse. If the habitat assessment is conducted by a federal and state permitted SMHM biologist, and the biologist renders a conclusion that no impacts to the SMHM would occur from development of the project site, the standards of care dictated by CEQA will be met and no further action shall be warranted. If the habitat assessment concludes that the site does provide suitable habitat for SMHM and/or the agencies conclude that suitable habitat is present, measures to avoid, minimize, and mitigate impacts should be implemented consistent with the requirements included in MM 4.3-1 and in coordination with the agencies. As mentioned above, Dr. Gretchen Padgett-Flohr, a SMHM-permitted mammologist concluded that the project site and off-site improvement areas do not contain suitable habitat to support SMHM and that the SMHM does not occupy the project site or off-site improvement areas. Although the Enterprise Drive ROW was not included in the SMHM habitat assessment, it is also unsuitable habitat for SMHM because it lacks tidal influence and dense patches of pickleweed similar to the adjacent Hickory Street ROW and "A" Avenue. The proposed project would not impact the SMHM or potentially suitable habitat for the species.

Although no suitable habitat to support SMHM occurs in the project site or off-site improvement areas, the Plummer Creek Wetland Mitigation Bank south of the project site and adjacent to the culvert replacement site is thought to contain habitat suitable to support the SMHM, but that species has never been observed there. Similarly, the solar salt basins west of the project site may contain suitable habitat. As a reasonable and prudent voluntary measure, exclusionary fencing has been installed along the southern and western project site boundaries, and the applicant proposes to voluntarily implement protective measures during construction.

<u>Impacts to Sensitive Habitats or Special-Status Natural Communities</u>

Sensitive habitats within the project site and off-site improvement areas are limited to aquatic resources considered to be waters of the U.S./State and/or drainage ditches subject to CDFW jurisdiction under Section 1600 et seq. of the Fish and Game Code. Impacts to these resources are discussed in the following paragraphs. No sensitive upland habitat identified as a special-status natural community is present within the project area.

Figure 4.3-3, *Impacts to Habitats and Jurisdictional Areas*, depicts impacts to biological habitats in the project area including upland habitats, waters of the U.S./State, and drainage ditches potentially regulated by CDFW. Impacts to the biological habitats are associated with the conversion of the existing habitats to developed land uses.

Impacts to Waters of the U.S./State

Impacts to waters of the U.S./State would result from the placement of fill into the seasonal wetlands, drainages, and the un-vegetated ponded depression to facilitate construction of the proposed project, as a result of the alteration of project site's drainage patterns, and the potential for input of pollutants into wetlands and other waters not directly impacted by project construction. Refer to Figure 4.3-3 for impacts to waters of the U.S./State.

Table 4.3-4, *Summary of Impacts to Waters of the U.S. (in the Project Site)*, is a summary of estimated impacts to waters of the U.S. that would occur on the project site as a result of the proposed project. Table 4.3-5, *Summary of Impacts to Waters of the U.S. (in the Off-site Improvement Areas)* is a summary of the estimated impacts to waters of the U.S. that would occur in the off-site improvement areas as a result of the proposed project. All waters of the U.S. in the off-site improvement areas will be permanently impacted as a result of the proposed project.

Table 4.3-4
SUMMARY OF IMPACTS TO WATERS OF THE U.S.
(IN THE PROJECT SITE)

Jurisdictional Areas	Existing Area (acres)	Impacted Area (acres)		No Impact
		Permanent	Temporary	
Unclassified				
Industrial Settling Basins (aquatic)	0.17	0.17	--	--
Subtotal Unclassified	***0.17***	***0.17***	***--***	***--***
Other Waters of the U.S.				
Drainage Ditch 1	0.37	0.17	0.20	--
Drainage Ditch 2	0.08	0.07	--	0.01
Unvegetated Ponded Depression	0.39	0.39	--	--
Subtotal Other Waters	***0.84***	***0.63***	***0.20***	***0.01***
Wetlands				
Seasonal Wetland 1	0.41	0.23	0.18	--
Seasonal Wetland 2	1.09	1.09	--	--
Seasonal Wetland 3	0.38	0.38	--	--
Seasonal Wetland 4	0.93	0.93	--	--
Seasonal Wetland 5	0.38	0.38	--	--
Seasonal Wetland 6	0.27	0.27	--	--
Seasonal Wetland 7	10.76	1.54	--	9.22
Seasonal Wetland 8	0.01	0.01	--	--
Subtotal Wetlands*	***14.23***	***4.83***	***0.18***	***9.22***
TOTAL*	**15.25**	**5.63**	**0.38**	**9.23**

Source: HELIX 2015c
*Totals may not add due to rounding.

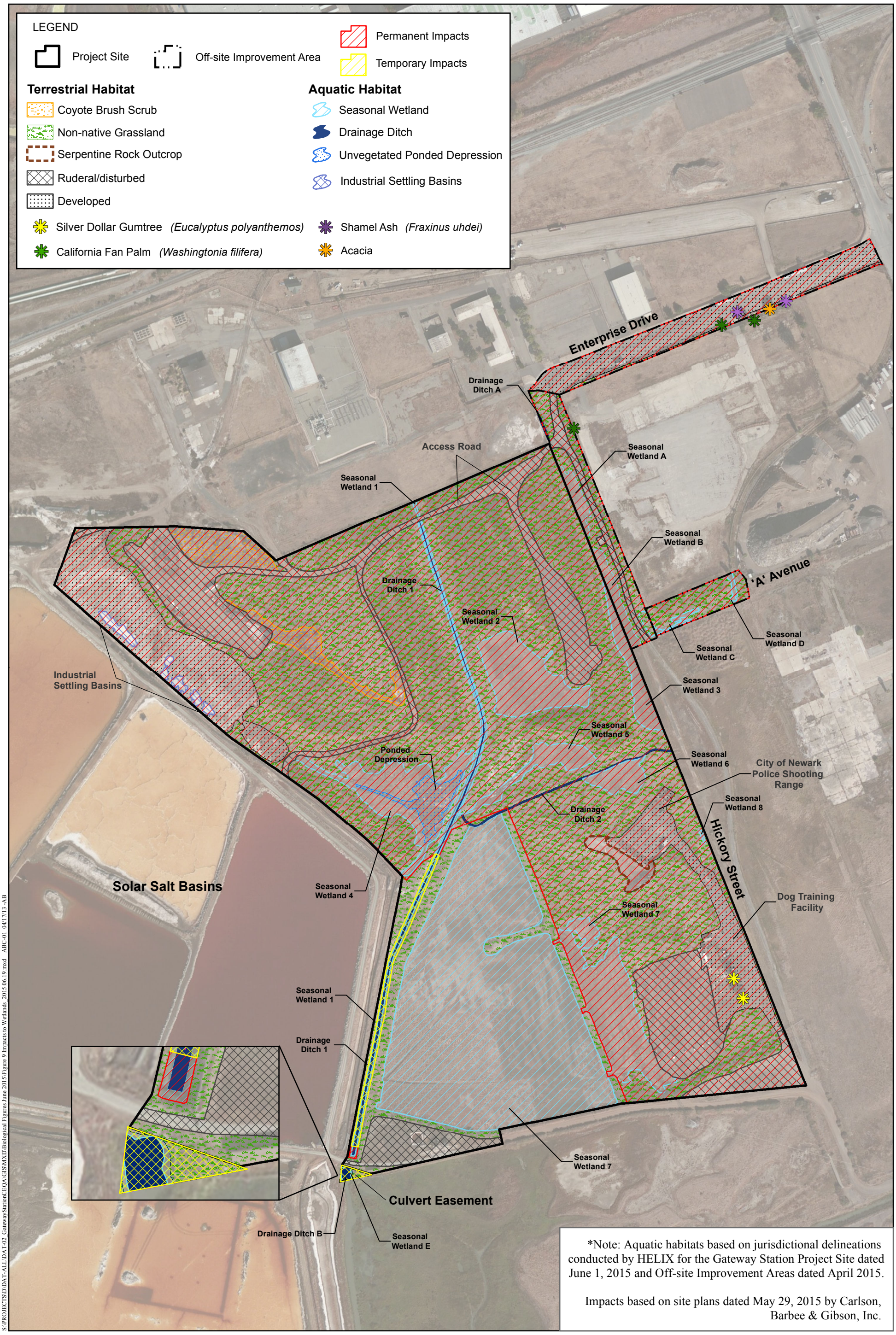
Table 4.3-5
SUMMARY OF IMPACTS TO WATERS OF THE U.S.
(IN THE OFF-SITE IMPROVEMENT AREAS)

Jurisdictional Areas	Existing Area (acres)	Impacted Area (acres)	
		Permanently	Temporary
Hickory Street ROW			
Wetlands			
Seasonal Wetland A	0.15	0.15	--
Seasonal Wetland B	0.21[1]	0.21	--
Seasonal Wetland C	0.04	0.04	--
Subtotal	*0.40*	*0.40*	--
Other Waters of the U.S.			
Drainage Ditch	<0.01	<0.01	--
Total Hickory Street ROW	**0.40**	**0.40**	--
'A' Avenue			
Wetlands			
Seasonal Wetland C	0.04	0.04	--
Seasonal Wetland D	0.03	0.03	--
Total 'A' Avenue	**0.07**	**0.07**	--
Culvert Replacement Site			
Wetlands			
Seasonal Wetland E	<0.01	--	<0.01
Other Waters of the U.S.			
Drainage Ditch B	0.03	--	0.03
Total Culvert Replacement Site	**0.03**	**--**	**0.03**
TOTAL	**0.50**	**0.47**	**0.03**

[1] Represents the estimated acreage of the portion of the seasonal wetland within the Hickory Street ROW based on aerial photography and mapping contained in the jurisdictional delineation of the Torian Property prepared by Zentner and Zentner (Zentner and Zentner 2010), which was verified by the USACE in 2010 (File No. 2010-00230S).

Impacts to Potential CDFW Jurisdictional Areas

Permanent impacts to bed, banks, and channel of drainage ditches potentially regulated by CDFW would result from the placement of fill into certain drainages and associated seasonal wetlands to facilitate construction of the proposed project. Temporary impacts are associated with remediation activities along the segment of Drainage Ditch 1 through the open space area. Table 4.3-6, *Summary of Impacts to Habitats Potentially Regulated by CDFW*, is a summary of impacts to the habitats potentially regulated by CDFW under Section 1600 et seq. of the Fish and Game Code that would result from the proposed project. Impacts to such streams are depicted on Figure 4.3-3.



S:\PROJECTS\D\DAT-ALL\DAT-02_GatewayStation\CEQA\GIS\MXD\Biological Figures June 2015\Figure 9 Impacts to Wetlands_2015.06.19.mxd ABC-01 04/17/13 -AB

Aerial Source: ESRI

Impacts to Habitats and Jurisdictional Areas

GATEWAY STATION WEST

HELIX Environmental Planning

0 225 Feet

Figure 4.3-3

Table 4.3-6
SUMMARY OF IMPACTS TO HABITATS POTENTIALLY REGULATED BY CDFW

Feature		Area[1] (acres)	Impacted Area (acres)		No Impact (acres)
			Permanent	Temporary	
Drainage Ditch 1	Drainage ditch	0.37	0.15	0.22	--
	Seasonal wetland	0.41	0.19	0.22	--
	Ruderal	0.17	0.1	0.07	--
Subtotal		*0.95*	*0.44*	*0.51*	--
Drainage Ditch 2		0.08	0.06	--	0.02
Total in Project Site		***1.03***	***0.50***	***0.51***	***0.02***
Drainage Ditch B	Drainage ditch	0.03	--	0.03	--
	Seasonal wetland	<0.01	--	<0.01	--
Total in Culvert Replacement Site		***0.03***	***--***	***0.03***	***--***
TOTAL		**1.06**	**0.50**	**0.54**	**0.02**

Source: HELIX 2015c
[1] Rounded to nearest one-hundredth of an acre.

Impacts to Protected Trees

Both of the silver dollar gum trees occurring on the project site would be removed to facilitate implementation of the proposed project. Proposed improvements along the Enterprise Drive ROW would require that the two shamel ash trees and the California fan palm trees be removed. The acacia straddles the boundary of the Enterprise Drive ROW project limits and may be able to be retained. The California fan palm within the Hickory Street ROW straddles the boundary of the off-site project limits and may be able to be retained.

4.3.4 Level of Significance Before Mitigation

Impacts to SMHM would be less than significant; no mitigation is necessary. Impacts to special-status plants are less than significant prior to mitigation if construction commences prior to the end of summer of 2017. If construction commences after the end of summer of 2017, impacts to special-status plants may be potentially significant and mitigation measures would be required.

Prior to mitigation, the proposed project may result in potentially significant impacts to burrowing owl, northern harrier and other nesting raptors, saltmarsh common yellowthroat and other nesting passerines and migratory birds, waters of the U.S./State, CDFW jurisdictional areas, and protected trees.

4.3.5 Mitigation Measures

Special-Status Plant Species

Section 4.3 of the Dumbarton TOD Specific Plan EIR identified MM 4.3-5 to address identified potentially significant impacts to special-status plant species within the Specific Plan area in the form of special-status plant surveys and the development of suitable mitigation measures if special-status plants are present. Special-status plant surveys have been conducted consistent

with MM 4.3-5 for the project site and off-site improvement areas, and the project specific mitigation is presented below to meet the requirements of MM 4.3-5 and address potential impacts related to special-status plants on the project site or off-site improvement areas.

MM BIO-1: The results of rare plant surveys are typically considered valid for two blooming seasons after the surveys are conducted. If development of the site commences prior to the end of summer of 2017, no further mitigation measure is required for special-status plant species. If development of the site does not commence prior to the end of summer of 2017, rare plant surveys should be re-conducted to verify presence/absence of special-status plant species.

If special-status plants are found in the project site and/or off-site improvement areas, project development plans shall consider avoidance to the extent practicable. If avoidance is not practicable while otherwise obtaining the project's objectives, then other suitable measures and mitigation shall be implemented as detailed below. A mitigation compliance report shall be submitted to the City planning staff or staff biologist at least 30 days prior to ground disturbance. The compliance report shall detail the avoidance and other mitigation measures that have been implemented by the project. The City may approve grading/site disturbance in a quicker timeframe than 30 days if compliance with the mitigation measures can be verified by the City sooner than 30 days.

The following measures shall be implemented if special-status plants are found in the project area during subsequent survey(s) prior to site disturbance:

- Initially the feasibility of avoidance shall be evaluated as noted above.
- If avoidance is not feasible, a mitigation plan shall be developed in consultation with CDFW personnel if it is a state listed (i.e., protected pursuant to the CESA) or a CNPS List 1B or List 2 plant. If the plant is state listed, an incidental take permit (i.e., a 2081 Agreement) shall be acquired for the project from CDFW prior to any grading within the project area. A copy of the permit shall be provided to the appropriate department within the City prior to any grading within the project area. Any conditions for the project established by CDFW in the 2081 Agreement shall become conditions of the project also enforceable by the City.
- If the plant is federally listed (i.e., protected pursuant to FESA), the project sponsor shall formally notify the USFWS within five days of the finding and this agency's permitting instructions shall be incorporated into the project conditions of approval. As required in-practice by the USFWS, an "incidental take" permit may be necessary from the USFWS for any proposed impacts on any federally listed plants found within the project site. A copy of this permit or a letter from the USFWS that otherwise states this agency is satisfied with the avoidance and/or

mitigation measures shall also be provided to the appropriate department at the City prior to the time the project site can be graded.

- If a plant is found on the project site that is a CNPS List 1B or 2 species, and the species is not otherwise protected pursuant to state or federal regulations, prior to construction within the project area, a qualified botanist shall collect the seeds, propagules, and top soils, or other part of the plant that would ensure successful replanting of the population elsewhere. The seeds, propagules, or other plantable portion of all plants shall be collected at the appropriate time of the year. Half of the seeds and top soils collected shall be appropriately stored in long-term storage at a botanic garden or museum (for example, Rancho Santa Ana Botanic Garden). The other half of the seeds, propagules, or other plantable portion of all plants shall be planted at the appropriate time of year (late-fall months) in an area of the subject property or off-site, protected property that will not be impacted by the project (if the project has a designated off-site mitigation site for impacts on other special-status species, the plants can be seeded on the mitigation site). This area shall be fenced with permanent fencing (for example, chain link fencing) to ensure protection of the species. The applicant shall hire a qualified biologist to conduct annual monitoring surveys of the transplanted plant population for a five-year period and shall prepare annual monitoring reports reporting the success or failure of the transplanting effort. These reports shall be submitted to the City and appropriate resource agency (CDFW and/or USFWS) no later than December 1st of each monitoring year.

- If the seeding/transplanting effort fails, the stored seeds and top soils can be taken out of long-term storage and sown in another location (either onsite or offsite) deemed suitable by CDFW. This seeding effort shall then be monitored for an additional three-year period to ensure survivorship of the new population. Annual monitoring reports shall be submitted to the City for the three-year period.

- A CNDDB form shall be filled out and submitted to CDFW for any special-status plant species identified within the project site. Any mitigation plan developed in consultation with CDFW shall be implemented prior to the initiation of grading or issuance of a development permit.

- In lieu of the above-prescribed mitigation, as allowed in writing by the City (for CEQA protected species only) and/or CDFW (for CEQA and/or state listed species), mitigation requirements may be satisfied via the purchase of qualified mitigation credits or the preservation of off-site habitat. If the species in question is federally listed, then USFWS would also have to agree in writing, typically through issuance of a Biological Opinion, that the purchase of qualified mitigation credits or the preservation of off-site habitat would constitute satisfactory mitigation.

Burrowing Owl

Section 4.3 of the Dumbarton TOD Specific Plan EIR identified MM 4.3-3 to identify potentially significant impacts to burrowing owls within the Specific Plan area. The mitigation measure is relevant to the proposed project; however, the measure is based on the 1995 CDFG burrowing owl guidelines which have been supplanted by the Staff Report on Burrowing Owl Mitigation (CDFW 2012), and the protocol breeding season presence/absence surveys required by MM 4.3-3 have been conducted according the current guidelines prepared by CDFW in the Staff Report on Burrowing Owl Mitigation (CDFW 2012). Because the only evidence of burrowing owl on the project site and off-site improvement areas was signs of potential past use by a solitary winter migrant, no compensatory mitigation is triggered; however, additional pre-construction surveys are warranted. If burrowing owl pair(s) or resident burrowing owl is observed during any of the pre-construction surveys, avoidance and compensatory mitigation would be required, as described below. The project specific mitigation presented below reflects revisions to MM 4.3-3 for consistency with the 2012 CDFW guidelines for pre-construction surveys and to address potential impacts to burrowing owls in the project site.

MM BIO-2: Pre-construction surveys for western burrowing owl shall be conducted in accordance with the CDFW 2012 protocol by a qualified biologist prior to ground disturbance (including grading, clearing and grubbing, brush removal, or any other ground disturbance) as described below to ensure there are no impacts on burrowing owls as a result of the proposed project.

The initial survey shall be conducted in the 30-day period prior to ground disturbance associated with the project, but no less than 14 days prior to the initiation of ground disturbance. Western burrowing owl surveys shall be conducted from two hours before sunset to one hour after, or one hour before to two hours after sunrise. All burrowing owl sightings, occupied burrows, and burrows with owl sign (e.g., pellets, excrement, and molt feathers) shall be counted and mapped. Surveys shall be conducted by walking all suitable habitat on the entire project area and (where possible) in areas within 150 meters (approximately 500 feet) of the project impact zone. The 150-meter buffer zone is surveyed to identify burrows and owls outside of the project area which may be impacted by factors such as noise and vibration (heavy equipment) during project construction. Pedestrian survey transects shall be systematically spaced to allow 100 percent visual coverage of the ground surface. The distance between transect center lines shall be no more than 20 meters (approximately 100 feet) and shall be reduced to account for differences in terrain, vegetation density, and ground surface visibility. If no suitable burrowing owl habitat is present, no additional surveys will be required. If suitable burrows are determined to be present on the site, a qualified biologist will visit the site an additional three times to investigate whether owls are present where they could be affected by the proposed activities. The final survey shall be conducted within the 24-hour period prior to the initiation of construction.

If burrowing owl is present during the non-breeding season (generally September 1 through January 31), a buffer of 50 meters (approximately 160 feet)

shall be maintained around the occupied burrow(s), if practicable. If maintaining such a buffer is not feasible, then the buffer must be great enough to avoid injury or mortality of individual owls, or the owls shall be passively relocated in coordination with CDFW. If burrowing owl is detected on the site during the breeding season (peak of the breeding season is April 15 through July 15), and appear to be engaged in nesting behavior, a fenced 250-foot buffer shall be required between the nest site(s) (i.e., the active burrow(s)) and any earth-moving activity or other disturbance in the project area. This 250-foot buffer could be decreased to 160 feet once it is determined by a qualified burrowing owl biologist that the young have fledged (that is, left the nest). Typically, the young fledge by August 31. This date may be earlier than August 31, or later, and would have to be determined by a qualified burrowing owl biologist.

If burrowing owl is found on the project site, a qualified biologist shall delineate the extent of burrowing owl habitat on the site and a Mitigation Plan shall be prepared in consultation with CDFW for review and approval by the City. The Mitigation Plan shall identify the mitigation site and any activities proposed to enhance the site, including the construction of artificial burrows and maintenance of California ground squirrel populations on the mitigation site. In addition, for each pair of burrowing owls found in the construction area, two artificial nesting burrows shall be created at the mitigation site. The Plan shall also include a description of monitoring and management methods proposed at the mitigation site. Monitoring and management of any lands identified for mitigation purposes shall be the responsibility of the applicant for at least five years. An annual report shall be prepared for submittal to CDFW and the City by December 31 of each monitoring year. Contingency measures for any anticipated problems shall be identified in the plan. Compensatory mitigation shall consist of providing 6.5 acres of replacement habitat which shall be protected in perpetuity per pair of burrowing owls, or unpaired resident bird. Such a set-aside would offset permanent impacts on burrowing owl habitat. The protected lands shall be adjacent to occupied burrowing owl habitat if possible, and at a location selected in consultation with CDFW. Land identified to offset impacts on burrowing owls shall be protected in perpetuity by a suitable property instrument (e.g., a conservation easement or fee title acquisition).

Northern Harrier and Other Nesting Raptors

Section 4.3 of the Dumbarton TOD Specific Plan EIR identified MM 4.3-2 to identify potentially significant impacts to nesting raptors within the Specific Plan area. The mitigation measure is relevant to the proposed project. The project specific avoidance and minimization measures below are a revision of MM 4.3-2 to include detailed survey requirements based on the species with the potential to be present. The following avoidance and minimization measures shall be implemented prior to site disturbance to avoid impacts to nesting northern harriers and other raptors on the project area or immediately adjacent properties as required by MM 4.3-2 from the Specific Plan EIR.

MM BIO-3: In order to avoid impacts to northern harrier or other nesting raptors, a nesting survey shall be conducted within the project site prior to commencing with earth-moving or construction work if this work would occur during the raptor nesting season (between February 1 and August 31).

The raptor nesting survey shall include examination of all trees on or within 300 feet of the entire project site, not just trees slated for removal, since ground vibrations and noise from earth-moving equipment can disturb nesting birds and potentially result in nest abandonment. Areas within 300 feet of the project site shall be surveyed on foot if accessible or from within the project site or publicly accessible areas by scanning the surrounding land with the aid of binoculars. Since northern harriers are ground nesting raptors, the nesting surveys will include systematic walking transects of accessible, suitable nesting habitat within 300 feet of the project site.

If nesting raptors are identified during the surveys, orange construction fence shall be installed to establish a 300-foot radius around the nest unless a qualified biologist determines that a lesser distance will adequately protect the nest (refer to discussion below for more detail). If the tree or nest is located off the project site, then the buffer shall be demarcated per the above where the buffer intersects the project site.

The size of the non-disturbance buffer may be altered if a qualified raptor biologist conducts behavioral observations and determines the nesting raptors are well acclimated to disturbance. If this occurs, the raptor biologist shall prescribe a modified buffer that allows sufficient room to prevent undue disturbance/harassment to nesting raptors. If the buffer is reduced, the qualified raptor biologist shall remain on site to monitor the raptors' behavior during heavy construction in order to ensure that the reduced buffer does not result in take of eggs or nestlings.

No construction or earth-moving activity shall occur within the established buffer until it is determined by a qualified raptor biologist that the young have fledged (that is, left the nest) and have attained sufficient flight skills to avoid project construction zones. This typically occurs by August 31. This date may be earlier or later, and shall be determined by a qualified raptor biologist. If a qualified biologist is not hired to monitor the nesting raptors then the full 300-foot buffer(s) shall be maintained in place from February 1 through the month of August. The buffer may be removed and work may proceed as otherwise planned within the buffer on September 1.

Saltmarsh Common Yellowthroat and Other Nesting Passerines and Migratory Birds

Section 4.3 of the Dumbarton TOD Specific Plan EIR identified MM 4.3-4 to identify potentially significant impacts to nesting passerines within the Specific Plan area. The mitigation measure is relevant to the proposed project. The project specific avoidance and minimization measures below are a revision of MM 4.3-4 to include detailed survey requirements based on the species

with the potential to be present. The following avoidance and minimization measures shall be implemented prior to site disturbance to avoid impacts to saltmarsh common yellowthroat and other nesting passerines and migratory birds utilizing the project area or immediately adjacent properties, as required by MM 4.3-4 from the Specific Plan EIR.

MM BIO-4: To avoid impacts on nesting passerines and other migratory birds, a nesting survey shall be conducted in the project site and areas within 100 feet of the site prior to commencing initial earth-moving or construction work if this work would occur during the passerine nesting season (between March 1 and September 1). Areas within 100 feet of the project site shall be surveyed on foot if accessible or from within the project site or publicly accessible areas by scanning the surrounding land with the aid of binoculars.

The nesting surveys shall be completed approximately 15 days prior to commencing work. If special-status birds are identified nesting on or near the project site, a 100-foot radius around all identified active nests shall be demarcated with orange construction fencing to establish a non-disturbance buffer. If an active nest is found off site, the intersecting portion of the buffer that is on site shall be fenced. No construction or earth-moving activity shall occur within this 100-foot staked buffer until it is determined by a qualified biologist that the young have fledged (that is, left the nest) and have attained sufficient flight skills to avoid project construction zones.

If common (that is, not special-status) birds, for example, red-winged blackbird, are identified nesting on or adjacent to the project site, a non-disturbance buffer of 75 feet shall be established or as otherwise prescribed by a qualified biologist. The buffer shall be demarcated with orange construction fencing. Disturbance around an active nest shall be postponed until it is determined by the qualified biologist that the young have fledged and have attained sufficient flight skills to leave the area.

Typically, most birds in the region of the project site are expected to complete nesting by August 1. However, in the region many species can complete nesting by the end of June or in early to mid-July. Regardless, nesting buffers shall be maintained until August 1 unless a qualified biologist determines that the young have fledged and are independent of their nests at an earlier date. If buffers are removed prior to August 1, the biologist conducting the nesting surveys shall prepare a report that provides details about the nesting outcome and the removal of buffers. This report shall be submitted to the City project planner and CDFW prior to the time that buffers are removed if the date is before August 1.

Existing vegetation along the tops of the banks of the north/south drainage ditch through the open space area that provides potential nesting habitat for saltmarsh common yellowthroat and other nesting passerines, as determined by a qualified biologist, shall be protected from removal during site remediation activities.

Waters of the U.S./State

Section 4.3 of the Dumbarton TOD Specific Plan EIR identified MM 4.3-6 to address identified potentially significant impacts to waters of the U.S./State within the Specific Plan area in the form of conducting a project-specific wetland delineation, obtaining the appropriate permits and providing appropriate compensatory mitigation (as appropriate). Delineations of waters of the U.S./State have been prepared and submitted to USACE for approval consistent with MM 4.3-5. The project specific mitigation is presented below to meet the requirements of MM 4.3-6 regarding obtaining the appropriate permits and providing appropriate mitigation for impacts to waters of the U.S./State on the project site or off-site improvement areas.

MM BIO-5: A verification of/concurrence with the 2015 wetland delineation must be obtained from the USACE prior to approval of the proposed project by the City.

Authorization from the Corps and the RWQCB (for example, an Individual Permit and a 401 Water Quality Certification) shall be obtained as necessary/required by these agencies prior to filling any waters of the U.S./State on the project site off-site improvement areas.

Impacts shall also be minimized by the use of BMPs to protect preserved waters of the U.S./State and to ensure that water quality standards are not compromised in preserved wetlands and other waters within the watershed. These practices can include installing orange construction fencing buffers, straw waddles to keep fill from entering preserved/avoided wetlands and other waters, and other protective measures. During project construction, a biological monitor shall be on site to monitor the integrity of any preserved wetlands and other waters during mass grading or filling of the project site or off-site improvement areas.

For those wetland areas that are not avoided by project construction, compensatory mitigation shall be provided. As approved by the USACE, the project applicant may purchase mitigation credits from an approved mitigation bank or an approved in-lieu fee mitigation entity at a 1:1 ratio.

As an alternative to the purchase of credits in a mitigation bank, wetlands may be created on site and, if so, shall have an equal or higher functional value than those wetlands affected by the project (known as in-kind replacement). If wetlands cannot be created in-kind and on site, other alternatives shall include off-site and/or out-of-kind mitigation. In any case, mitigation requirements for wetland areas that are not avoided shall be that all impacted wetlands are replaced at a minimum 1:1 ratio (for each square foot of impact, one square foot of wetland would be restored/created) or at a ratio determined by the USACE at the time permits are issued. Mitigation requirements will be based upon the existing conditions of the wetlands impacted. Where practicable, wetland plant/animal populations shall be relocated prior to disturbance from the impacted wetlands to any re-created wetlands. Topsoils shall also be removed from impacted wetlands if practicable, and placed into any re-created wetlands. These topsoils would

contain a seed bank of the impacted plant species which would germinate with fall/winter hydration of the re-created wetlands.

If wetlands are restored/created, adequate compensation shall include creating wetlands at a suitable location that meet the following performance standards:

- The wetlands shall remain inundated or saturated for sufficient duration to support a predominance of hydrophytic vegetation.
- The wetlands shall exhibit plant species richness comparable to affected wetlands.
- The wetlands shall replace the lost wetlands at a minimum ratio of one acre created for each acre, or fraction thereof, permanently impacted.
- The developer shall provide for the protection of the mitigation areas in perpetuity either through a permanent protection device such as a restrictive covenant or conservation easement.
- The developer shall establish a five-year program to monitor the progress of any restored or created wetland mitigation, other than Mitigation Bank Credits, toward these standards. At the end of each monitoring year, an annual report shall be submitted to the City, the RWQCB, and the USACE. This report shall document the hydrological and vegetative condition of the mitigation wetlands, and shall recommend remedial measures as necessary to correct deficiencies.
- The USACE and other regulatory agencies generally require that wetlands not impacted by the proposed project and any new wetlands created to mitigate project impacts be set aside in perpetuity, either through deed restrictions or conservation easements. See the avoidance and minimization measure regarding the open space area (MM BIO-9).

Habitats Regulated By CDFW

The following project-specific MM is developed to address activities that divert, obstruct, or alter stream flow, or substantially modify the bed, channel, or bank of a stream. Although not included as mitigation in the Dumbarton TOD Specific Plan EIR, the Streambed Alteration Agreement is noted in Section 4.3 of the EIR and CDFW jurisdictional areas typically coincide with waters of the U.S. which were specifically discussed in the Dumbarton TOD Specific Plan EIR. No new or more significant impacts were identified over those identified in the Dumbarton TOD Specific Plan EIR.

MM BIO-6: A Streambed Alteration Agreement shall be obtained for impacts to habitats regulated by CDFW pursuant to Section 1600 et seq. of the California Fish and Game Code. Measures required by the Streambed Alteration Agreement shall be implemented as a condition of project approval and prior to ground disturbance affecting the drainage ditches and associated vegetation regulated by CDFW. A "no net loss" of bed, banks, and channels of the regulated waterways permanently lost as a result of the project shall be achieved with this mitigation measure.

Protected Trees

Section 4.3 of the Dumbarton TOD Specific Plan EIR identified MM 4.3-8 to address the removal of trees protected by City Ordinance. The project specific mitigation is presented below to meet the requirements of MM 4.3-8 regarding obtaining the appropriate permits and providing appropriate mitigation for impacts to protected trees on the project site or off-site improvement areas.

MM BIO-7: A tree permit shall be obtained from the City prior to the removal of any tree protected by City ordinance on the project site or off-site improvement areas. To offset impacts resulting from the removal of protected trees, replacement trees shall be planted in designated open space areas on the project site. Tree replacement shall be at a 1:1 ratio (that is, for each tree removed, one tree shall be planted as a replacement). Replacement trees shall be native California species that are native to the Newark area.

A Tree Management Plan shall be prepared for the proposed project if tree removal occurs. Preparation of this plan and subsequent planting and monitoring shall be a condition of project approval and shall be tied to a security bond or cash deposit posted by the developer with the City to pay for any remedial work that might need to occur, if the prior effort fails.

All planted trees shall be provided with a buried irrigation system that shall be maintained over a minimum three-year establishment period. The irrigation system shall be placed on automatic electric or battery operated timers so that trees are automatically watered during the dry months of the establishment period. At the end of the 3-year establishment period, the irrigation system could be removed, if necessary. The planted trees' health shall be monitored annually for 5 years by a qualified biologist or arborist. Annual monitoring reports shall be submitted to the City.

At the end of a five-year monitoring period, at least 80 percent of planted trees shall be in good health. If the number of planted trees falls below an 80 percent survival rate, additional trees shall be planted to bring the total number of planted trees up to 100 percent of the original number of trees planted. Irrigation and follow-up monitoring shall be established over an additional three-year period after any replanting occurs. Any replanting and follow-up monitoring shall be reported in annual reports prepared for the City, Community Development Department. A performance bond, letter of credit, or other financial instrument shall be established to pay for any remedial work that might need to occur, if the prior effort fails.

Salt Marsh Harvest Mouse (*Reithrodontomys raviventris*)

MM 4.3-1 of the Dumbarton TOD Specific Plan EIR requires that a CDFW and USFWS permitted federal and state permitted salt marsh harvest mouse biologist conduct a habitat assessment to determine whether suitable habitat is present for salt marsh harvest mouse. If the conclusion is rendered by the CDFW and USFWS-qualified biologist that no impacts to the salt

marsh harvest mouse would occur, the standards of care dictated by CEQA will be met and no further action shall be warranted. Dr. Gretchen Padgett-Flohr determined that the site does not contain suitable habitat to support SMHM and that none would be affected by its development (HELIX 2015c). That conclusion was bolstered by an additional pedestrian survey of the site by Dr. Padgett-Flohr on July 10, 2014 that also concluded that no suitable habitat was present on the site. Based on these findings by a qualified, CDFW and USFWS permitted salt marsh harvest biologist, the standards of care dictated by CEQA have been met and no further action is warranted, and no compensatory mitigation is required.

However, to bolster this finding, the applicant proposes to voluntarily implement protective measures for salt marsh harvest mouse during culvert replacement activities in the culvert replacement site. The project specific mitigation is presented below based on the requirements of MM 4.3-1.

MM BIO-8 A qualified biologist (biological monitor) shall be on site in the culvert replacement site during pre-construction and culvert replacement activities.

Vegetation required to be removed in the culvert replacement site shall be removed by hand, and the area to be cleared would be minimized to the extent possible. Removed vegetation shall be stockpiled in areas away from the work activities.

Mouse-proof fencing shall be installed prior to culvert replacing activities, and maintained for the duration of construction. Prior to installing the salt marsh harvest mouse fence, all vegetation must be cleared from alongside the fence line route. The fencing shall be installed around the work area to prevent mice from entering the work area. The fencing shall be climb-proof (for example, smooth plastic, not silt fencing), and installed in such a manner that the salt marsh harvest mouse cannot dig under the fence. The salt marsh harvest mouse is known to be an agile climber, but rarely digs extensively; regardless, fencing materials must account for both behaviors.

The salt marsh harvest mouse fence shall be constructed using eight-millimeter plastic sheeting that is sandwiched between wooden stakes and buried in a minimum six-inch deep trench. The stakes shall screw together, firmly sandwiching the plastic in place. It is mandatory to sandwich the plastic between stakes if the fence is to last through even moderate winds. The finished installed fence shall be three feet above the ground. The plastic sheeting shall be smooth and non-climbable, and shall be buried and stapled to the ground at three-inch intervals to prevent rodents from digging under the fence. If construction activities occur for longer than three months from when the fence was installed, the fencing shall be replaced after three months. The integrity of the salt marsh harvest mouse fencing shall be inspected on a weekly basis by the biological monitor.

Open Space

The proposed project includes the establishment of conservation open space on the project site. MM 4.3-6 of the Dumbarton TOD Specific Plan EIR includes measures specific to establishing a preserve associated with avoided wetlands. The project specific mitigation is presented below to meet the requirements of MM 4.3-6, while addressing potential indirect impacts to sensitive wildlife species with the potential to use the open space area following construction of the development.

MM BIO-9: The open space area shall be set aside in perpetuity, either through deed restrictions or conservation easements. Because the open space area contains waters under jurisdiction of the USACE and RWQCB, and potentially suitable habitat for species regulated by and CDFW, the plan shall be developed in coordination with these agencies. If a perpetual deed restriction is used to preserve the open space the land owner and any assignees/transferees of the title of the property shall assume liability for the perpetual management of the preserved lands. The deed restriction shall provide the allowed and prohibited uses of the preserved site, and these uses shall be approved by the agencies. If a conservation easement is established, a non-wasting management endowment (non-wasting infers that principal may not be used to pay for management actions, only interest on the principal sum may be used) shall be established in concert with the grantee of the conservation easement and shall be large enough to pay for necessary management actions. In lieu of a management endowment, other financial assurances may be provided that otherwise are found acceptable by the USACE. An example of an alternative funding source would be via a Geologic Hazards Assessment District (GHAD). Home Owners' Associations and Landscape Lighting Districts are not suitable funding entities as funds collected via these entities can be distributed City wide at the discretion of the City. In contrast, GHADs must be used within the taxing district where the funds are acquired.

At least 60 days prior to commencement of ground disturbing activities (including site remediation activities), the applicant shall submit to CDFW, RWQCB, USACE for review and approval a management plan for the open space preserve area. The management plan will address the following issues:

- Funding: The applicant shall provide to the agencies documentation that funds for monitoring and perpetual maintenance of the open space area is available through one of the previously described mechanisms.
- Maintenance and Repair: The applicant shall provide for routine maintenance such as debris removal and inspection and repair of fences and access entries. The frequency of the maintenance activities shall be developed in coordination with the agencies.
- No Vehicles: Except as needed for maintenance and repair, and access of existing easements on the property, or as necessary in emergency situations, non-motorized and motorized vehicles shall be prohibited from the open space area.

- Inspection and Monitoring: The applicant shall establish a five–year program to monitor the progress of the wetland mitigation toward these standards. At the end of each monitoring year, an annual report shall be submitted to the City, the RWQCB, USACE, and CDFW. This report shall document the hydrological and vegetative condition of the wetlands, and shall recommend remedial measures as necessary to correct deficiencies.
- Restricted Activities: The applicant shall identify activities prohibited from taking place in the open space area. These include, but are not limited to: (1) alteration of existing topography or other alteration or uses for any purpose; (2) placement of any new structures in the open space area; (3) dumping and/or burning of rubbish, garbage, or other waste or fill materials; (4) construction and/or placement of new infrastructure, other than those already identified in the project design, including new roads or trails, and storm water systems or utilities (outside of the existing easements); (5) use of pesticides or herbicides unless otherwise approved by the agencies.

To minimize the potential for predation and harassment of wildlife using the open space area, solar salt ponds, and Plummer Creek Wetland Mitigation Bank from cats associated with the Gateway Station West development, the keeping of outside feline pets or feral cat stations shall be prohibited. Enforcement of the restriction shall be reflected in the Covenants, Conditions & Restrictions of the neighborhood. All occupants of the project site and potential occupants shall be notified of this restriction.

4.3.6 Level of Significance After Mitigation

Potentially significant impacts to the following biological resources would be reduced to below a level of significance with mitigation: (1) special-status plant species (if construction does not commence prior to the end of summer of 2017); (2) burrowing owl; (3) northern harrier and other nesting raptors; (4) saltmarsh common yellowthroat and other nesting passerines and migratory birds; (5) waters of the U.S./State; (6) habitats regulated by CDFW pursuant to Section 1600 et seq. of the California Fish and Game Code; and (7) protected trees. Based on these findings by a qualified, CDFW and USFWS permitted salt marsh harvest biologist, the project site and off-site improvement areas do not contain suitable habitat for salt marsh harvest mouse and they would not be expected to disperse into those areas. The project is not expected to impact salt marsh harvest mouse. No further action is warranted, and no compensatory mitigation is required. However, to bolster this finding, the applicant has installed exclusionary fencing along the southern and western project site boundaries and proposes to voluntarily implement protective measures for salt marsh harvest mouse during culvert replacement activities in the culvert replacement site.

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4.4 CULTURAL RESOURCES

The following section is summarized from information presented in the Dumbarton TOD Specific Plan FEIR (RBF 2011) and City General Plan (City 2013), as supplemented by a project-specific Cultural Resources Technical Memorandum that was prepared by Parus Consulting Inc. (PCI; December 2013). This section describes existing site conditions, identifies applicable regulatory requirements, and evaluates potential impacts and applicable mitigation measures associated with cultural resources for the proposed project. The Cultural Resources Technical Memorandum is contained in Appendix F to this SEIR.

4.4.1 Environmental Setting

Much of the area surrounding the project site is characterized by a variety historical industrial uses beginning in the early 1900s. Salt production and related processes are currently the dominant types of industry that make up this unique environmental setting. The acreage contains graded settling ponds on the west, large dirt stockpiles, and a series of large and small drainage ditches, which are located west and outside of the project area. Approximately 90 percent of the project area has been cut or filled and graded. The remaining 10 percent is a large, natural serpentine outcrop area in the central-eastern portion of the site. The following summarizes the prehistoric resources and historic uses of the project site and area.

Prehistoric Setting

The project site is located near the margins of the San Francisco Bay, an area where prehistoric sites including aboriginal villages and campsites are known to exist because of their proximity to available food resources such as shellfish, fish, birds, and other wildlife. Within several miles of the proposed project area, a number of small and large prehistoric sites have been recorded. One of the dominant Coastal American Tribes that are known to have inhabited the coastal area near the project site was the Ohlone tribal group. They were hunter-gathers that relied on acorns and seafood, exploiting the surrounding wetland areas that offered an abundance of wetland plants, shellfish, birds, and other wildlife. The historic presence of Native American activities in this area can be identified by midden soil deposits, a buildup of organic debris that contains marine shell and animal bones. Additional distinguishing prehistoric features associated with this era include scatters of "flakes" or chipped material that resulted from manufacturing chipped stoned tools and bedrock milling features (mortar depressions).

Historic Setting

The first significant European settlement of California began along the coast during the Spanish Period (1769 to 1821). In 1797, the Spanish established Mission San Jose in the area of present-day Fremont. The area that is now Newark was within the lands of Mission San Jose. However, none of the adobe dwellings or other Hispanic Era features, including roads, were located in or adjacent to the project site. After the 1848 discovery of gold at Sutter's Mill in Coloma, settlers began arriving in the present day Bay Area in great numbers. Among the first to settle in the Newark area was Origin Mowry, who in 1850 established Mowry's Landing, for a time known as Mowry's Creek, located south of the project. In 1878, South Pacific Coast Railroad (SPCR) opened service in what is the present day location of the Southern Railroad corridor which is

directly north of the project and is the future Dumbarton Rail Corridor (DRC) project. Only light industrial activities occurred in the area at this time and included the Carter Brothers railroad car "manufactory" as well as the Crystal Salt Works and Salt Ponds.

The project site remained primarily undeveloped until industrial uses moved in during the 1920s. During this time, the City and County of San Francisco installed a portion of the Hetch Hetchy aqueduct north of the project site. The first industrial operations to occur directly adjacent to the project were in the late 1920s by Wesvaco Company, a predecessor of the FMC Corporation. Westvaco constructed a plant and nearby settling ponds for the production of magnesia and other products resulting from the processing of salt water bitterns. In 1941, a land lease between Leslie Salt (now Cargill) and Westvaco provided the ability for Westvaco to utilize a portion of Leslie Salt land for various industrial purposes including settling ponds. Starting in 1981, the Toxic Substances Control Department (DTSC) of the State of California began an investigation on the FMC Corporation's land north of the project site, resulting in a Remedial Action Order. This prompted cleanup efforts that where initiated in the 1980s and resulted in the termination of the FMC Corporation's industrial operations in 2002.

In the 1950s, other industrial uses in the area developed including a brick manufacturing facility, chemical manufacturing and blending, construction, and packaging. During the 1970s, a second wave of industrial development began which resulted in chemical storage, packaging, and distribution. The majority of the past industrial uses in the surrounding area has either ceased or has been torn down. Remaining infrastructure includes a trap (skeet) shooting range in the southeast portion of the property that has existed since prior to World War II, where the City continues to lease a portion as a firing range for local police departments.

Records and Literature Search

To determine if prehistoric or historic cultural resources were previously recorded within the project area, a cultural resources literature search was completed on December 9, 2013, by the California Historical Resources Information System, Northwest Information Center (NWIC) at Sonoma State University. The records search was conducted to determine the extent to which the project area had been previously surveyed, and the number and type of cultural resources within a 0.25-mile radius of the project or within the project limits. The archival search consisted of an archaeological and historical records and literature review.

The records search shows that eight prior cultural resources studies have been completed within a 0.25-mile radius of the project (Table 4.4-1, *Prior Cultural Resources Studies in Project Area)*. Of these, a portion of one development area study (S-005858) was located within the western extent of the Gateway Station West Project area, and a segment of the study area for the DRC Project (S-036481) paralleled the west side of the current project area.

Table 4.4-1
PRIOR CULTURAL RESOURCES STUDIES IN PROJECT AREA

NWIC Report No.	Study	Author/Year	Year	Proximity to Project Area
S-000898	An Archaeological Reconnaissance of the Proposed Pipeline Routes and Reservoir Locations, Livermore-Amador Valley Water Management Agency, Alameda County, CA	Love et al.	1976	Within 0.25 mile
S-005858	A Report of a Preliminary Archaeological Field Reconnaissance of 9 Development Areas Inside the City of Newark, Alameda County, CA	M.P. Holman	1983	Partially within
S-033248	Archival Literature Review and Surface Survey for the Newark Pump Station Project, City of Newark, Alameda County, CA	Pastron, et al.	2006	Within 0.25 mile
S-033249	Archival Literature Review for the Willow/Central Avenue Sewer Rehabilitation Project, City of Newark, Alameda County, CA	Pastron, et al.	2006	Within 0.25 mile
S-036481	Archaeological Survey Report for the Dumbarton Rail Corridor Project, San Mateo and Alameda Counties, CA	Whitaker et al.	2009	Adjacent to west side of project
S-039019	Archaeological Records Search and Field Review, 42-Acre Property – Willow Street and Vicinity, City of Newark, Alameda County, CA	C.I. Busby	2007	Within 0.25 mile
S-039227	Archaeological Monitoring Summary Report – SFPUC BDPL 5, East Bay Segment, Alameda County, CA	C.I. Busby	2012	Within 0.25 mile
S-040929	Archaeological Data Recovery Report (SMA-83) (ADRR) and Final Archaeological Resources Report (FARR), San Francisco Public Utilities Commission Water Improvement Program, Bay Division Pipeline Reliability Upgrade Project, East Bay and Peninsula Bay Division Pipeline No. 5, and Alameda San Mateo Counties, CA	Basin Research Associates	2013	Within 0.25 mile

Source: PCI 2013

Sacred Lands File Search

PCI contacted the Native American Heritage Commission (NAHC) on December 6, 2013, requesting a search of their Sacred Lands File for traditional cultural resources within or near the project. The reply from the NAHC, dated December 11, 2013, stated that the search failed to indicate the presence of Native American sacred lands or traditional cultural properties in the immediate vicinity of the project area.

Known Cultural Resources

No known recorded archaeological resources, including prehistoric sites, occur in the Specific Plan area (RBF 2011). One historic-era cultural resource (P-01-001783) has been previously

recorded within a 0.25-mile radius of the project. The 16.4-mile long Southern Pacific Railroad (SPRR) Dumbarton Cutoff linked the railroad's lines to San Francisco, Ogden, Portland, and New Orleans. The line and the Dumbarton Bridge northwest of the current project were completed in 1910. The bridge was the first crossing of the San Francisco Bay. It carried freight trains from 1910 to 1982 and is the alignment for the planned Dumbarton Rail Corridor Project. A portion of the railroad corridor between Wells and Thornton Avenues has been evaluated as eligible for inclusion in the National Register of Historic Places under Criteria A, B, and C. Under Criterion A, it is associated with the system-wide improvements to the SPRR that gave the railroad its 20th century form and made it the standard railroad of the West. Under Criterion B, the cutoff is associated with E.H. Harriman, who drove the modernization of the SPRR, including construction of the cutoff. The Dumbarton Bridge as well as the Newark Slough Bridge contribute to eligibility under Criterion C as representative examples of a type and method of construction.

Historic maps provide additional information on the project area. The 1883 Government Land Office plat shows a portion of the project area within the boundaries of the "Ex Mission San José." The land was once part of the territory controlled by Mission San José, which was founded in 1797. The land was later part of a 30,000-acre Mexican land grant awarded in 1846. The Hayward's 1899 USGS 15-minute topographic map shows the development of Newark and the north-south route of the Santa Cruz Division of the SPRR through the town. The Hayward's 1915 USGS 15-minute topographic map shows the route of the east-west route of the SPRR tracks, which are north of the Gateway West Project site, intersecting the Santa Cruz line in Newark. The map also shows the west-central edge of the project area within the marshy area adjacent to waters of San Francisco Bay.

The Newark 1947 and 1959 USGS 7.5-minute quadrangles and the Hayward's 1959 USGS 15-minute map show the division of the property west of the project area into a series of salt evaporating ponds and multiple buildings north of the project area, as well as the Hetch Hetchy Spring Valley Aqueduct north of the east-west SPRR line and the growth of Newark. The maps also indicate a portion of the project area was divided into salt ponds. The 1968 photo revised version of the Newark 1959 topo shows one building and an unimproved road in the southeast corner of the project area, but the building is no longer depicted on the 1993 Newark 7.5-minute quadrangle. By 2012, the road has been modified to assume its present configuration as Hickory Street, as shown on the current topographic map.

Survey Methodology

Intensive-level pedestrian survey of the project corridor was conducted by PCI in December 2013. The entire project area was intensively surveyed using transects spaced no greater than 15 meters apart. All undeveloped ground surface areas within the project area were examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, or fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions and features indicative of the former presence of structures or buildings (e.g., postholes, foundations), or historic-era debris (e.g., metal, glass, ceramics). Ground disturbances (e.g., ditches, stockpiles) were visually inspected. Photographs of the project area, including ground surface visibility and items of interest, were taken with a digital camera.

Survey Results

No prehistoric, ethnohistoric, or historic-era cultural resources were identified during the pedestrian survey. All extant buildings and structures are of modern construction.

Paleontological Setting

Paleontological resources are the fossilized remains of plants and animals. The age and abundance of fossils depends on the location, topographic setting, and particular geologic formation in which they are found. The Specific Plan EIR area notes that the Specific Plan area (including the proposed project site and related off-site improvement areas) is underlain by Holocene-age (less than approximately 11,000 years old) floodplain and estuary deposits. Due to the young age of these units, the paleontological sensitivity of these units is considered low (RBF 2011).

4.4.2 Regulatory Setting

The proposed project is subject to federal, state, and local regulatory requirements related to potential cultural resources issues. Specific regulatory requirements are outlined in the Dumbarton TOD Specific Plan EIR and summarized below.

Federal

National Historic Preservation Act of 1966 (16. U.S.C. 470)

The National Historic Preservation Act (NHPA) of 1966 was enacted to "Establish a Program for the Preservation of Additional Historic Properties throughout the Nation and for Other Purposes" (16 USC 470). The NHPA authorized the creation of a National Registry of Historic Places (NRHP). The NRHP is the nation's official list of cultural resources worthy of preservation. It is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect our historic and archeological resources. The NRHP is administered by the National Park Service (NPS), which is part of the U.S. Department of the Interior.

Paleontological Resources Preservation

The Federal Paleontological Resources Preservation Act of 2002 codifies the generally accepted practice of limited vertebrate fossil collection and limited collection of other rare and scientifically significant fossils by qualified researchers. Researchers must obtain a permit from the appropriate state or federal agency and agree to donate any materials recovered to recognized public institutions, where they will remain accessible to the public and to other researchers.

State

California Register of Historical Resources

The California Register of Historical Resources (California Register) is a statewide program that is similar in scope to the National Register. It consists of a compilation of cultural resources that are significant within the context of local, California, or national history, but not necessarily

historically germane to other states. All resources listed in or formally determined eligible for the National Register are also eligible for the California Register, as are properties designated as historic resources under municipal or county ordinances or formally adopted historic surveys.

California Environmental Quality Act

Historical and archaeological resources are afforded consideration and protection by CEQA (14 CCR Section 21083.2, 14 CCR Section 15064). The State CEQA Guidelines define significant cultural resources under two regulatory designations: historical resources and unique archaeological resources.

A *historical resource* is defined as a "resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register for Historic Resources (CRHR)"; or "a resource listed in a local register of historical resources or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the [PRC]"; or "any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the agency's determination is supported by substantial evidence in light of the whole record" (14 CCR Section 15064.5[a][3]). While Traditional Cultural Property (TCP) and cultural landscapes are not directly called out in the state definitions of historical resources, TCPs are places and cultural landscapes are areas, and places and areas are included as types of historical resources. Historical resources that are automatically listed in the CRHR include California historical resources listed in or formally determined eligible for the NRHP and California Registered Historical Landmarks from No. 770 onward (PRC 5024.1[d]). Locally listed resources are entitled to a presumption of significance unless a preponderance of evidence in the record indicates otherwise.

Within California state law, cultural resources are defined as buildings, sites, structures, or objects, each of which may have historical, architectural, archaeological, cultural, and/or scientific importance. All resources nominated for listing in the CRHR must have integrity; the authenticity of a historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance. Therefore, resources must retain enough of their historical character or appearance to convey the reasons for their significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and/or association. It must also be judged with reference to the particular criteria under which a resource is proposed for nomination (Calif. PRC § 5024.1).

When an initial study identifies the existence of, or the probable likelihood of, Native American human remains within the project, a lead agency shall work with the appropriate Native Americans as identified by the NAHC. A project proponent may develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials with the appropriate Native Americans identified as the most likely descendant by the NAHC.

California law also sets forth special rules that apply where *human remains* are encountered during project construction. These rules are set forth in the State CEQA Guidelines, Section 15064.5[e] as follows:

In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps should be taken:

1. There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

    a. The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required (as required under California Health and Safety Code Section 7050.5).

    b. If the coroner determines the remains to be Native American:

        i. The coroner shall contact the [NAHC] within 24 hours.

        ii. The [NAHC] shall identify the person or persons it believes to be the most likely descended from the deceased Native American.

        iii. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods (as provided in [PRC] Section 5097.98), or

2. Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.

    a. The [NAHC] is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.

    b. The descendant identified fails to make a recommendation; or

    c. The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the [NAHC] fails to provide measures acceptable to the landowner.

<u>California Public Records Act</u>

This Act requires disclosure or inspection of government documents by the public. Section 6254.10 of this act provides for the nondisclosure of records relating to archaeological site information and reports maintained by, or in the possession of, the Department of Parks and Recreation, the State Historical Resources Commission, the SLC, the NAHC, including records obtained through consultation with Native American tribes and a state or local agency (California Public Records Act Section 6254.10, et seq.).

California Public Resources Code

PRC Section 5024 requires that each state agency develop policies for the preservation and maintenance of all state-owned historical resources under its jurisdiction listed in or potentially eligible for inclusion in the NRHP or registered or eligible for registration as a state historical landmark. Each state agency is required to submit updates to an inventory of all state-owned structures over 50 years of age under its jurisdiction listed in or which may be eligible for inclusion in the NRHP or registered or which may be eligible for registration as a state historical landmark. These inventories are used to create a master list maintained by the OHP. The State Historic Preservation Officer (SHPO) is supposed to be consulted by state agencies if any action would alter or affect any resources on this master list (PRC Section 5024.1). Additionally, Section 5024.1 establishes the CRHR as an authoritative guide for identifying which cultural resources are to be protected, to the extent prudent and feasible, from substantial adverse change. The CRHR eligibility criteria provide one of the bases for determining a cultural resource to be significant under CEQA.

PRC Section 5097.9 establishes that both public agencies and private entities using, occupying or operating on state property under public permit, shall not interfere with the free expression or exercise of Native American religion and shall not cause severe or irreparable damage to Native American sacred sites, except under special, determined circumstances of public interest and necessity. This section also creates the Governor-appointed nine-member NAHC, charged with identifying and cataloging places of special religious or social significance to Native Americans, identifying and cataloging known graves and cemeteries on private lands, and performing other duties regarding the preservation and accessibility of sacred sites and burials and the disposition of Native American human remains and burial items.

Under PRC Section 5097.5, all state and local agencies must cooperate with the NAHC by providing copies of appropriate sections of all CEQA environmental impact reports relating to property of special significance to Native Americans. The NAHC is required to investigate the effect of proposed actions by a public agency if these actions may either cause severe or irreparable damage to a Native American sacred site located on state property or inhibit access to that site.

The NAHC is authorized to recommend mitigation measures if it finds, after a public hearing, that a proposed action would result in that damage or interference and to request action from the Attorney General if these mitigation measures are not addressed. This section also includes requirements for landowners to limit further development activity on property where Native American human remains are found until that landowner confers with NAHC-identified most likely descendants to consider treatment options. It further enables those descendants, within 48 hours of notification by the NAHC, to inspect the discovery site and recommend to the landowner or the person responsible for the excavation the means to treat or dispose of the human remains and any associate grave goods with dignity. In the absence of a most likely descendant, or of a treatment acceptable to all parties, the landowner is required to reinter the remains elsewhere on the property in a location that will not be disturbed. Finally, this section makes it a felony to remove Native American artifacts or human remains from a Native American grave or cairn, as well as to acquire, possess, sell, or dissect Native American remains, funerary objects, or artifacts from a Native American grave or cairn and establishes the

repatriation of these remains, funerary objects, and associated grave artifacts as state policy (PRC Section 5097.9, et seq.).

California Health and Safety Code

Section 8010-8011 establishes a state policy that is partially consistent with the federal Native American Graves Protection and Repatriation Act. It attempts to ensure that all Native American human remains and cultural items are treated with dignity and respect. It encourages the voluntary disclosure and return of remains and cultural items by publicly funded agencies and museums in California, and requires that the state provide, to tribes, the mechanisms necessary to file and follow up with repatriation claims.

Government Code Sections 65560 and 65562.5 identifies the protection of Native American cultural places as acceptable designations of open space. It further requires local governments to conduct meaningful consultation with California Native American tribes on the contact lists maintained by the NAHC for purposes of protecting cultural places located on open space (California Government Code Section 65560, 65562.5, et seq.).

Local

City Municipal Code

Section 17.39 of Newark's Municipal Code outlines its Historic Preservation Program, which establishes procedures for the designation of historical resources within the City. The Program, adopted in 1989, also establishes procedures for the modification, alteration, demolition, or removal of landmark sites (City 1989). The City Historic Preservation Program evaluates potential historic resources, which it defines as a nominated building, cluster of buildings, structure, tree, plant, or site based on historic merit, and deems the nominated resource either not historic, primary landmark, or secondary landmark. Primary landmarks meet three or more of the specified criteria. Secondary landmarks meet two of the specified criteria of historic merit must meet one of the specified criteria. Criteria for designation as a historic resource are found within Newark Municipal Code Section 17.39.040, and generally include factors such as a relationship to historic persons, notable historic events, or buildings represent a now-rare architectural style, or were otherwise of architectural merit.

4.4.3 Environmental Analysis

Significance Thresholds

According to the Dumbarton TOD Specific Plan EIR and Appendix G of the State CEQA Guidelines, project-related impacts to cultural (prehistoric and historic) resources would be significant if the proposed project would:

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the State CEQA Guidelines or
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the State CEQA Guidelines.

- Directly or indirectly destroy a unique paleontological resource on site or unique geologic features;
- Disturb any human remains, including those interred outside of formal cemeteries.

Summary of Findings from the Dumbarton TOD Specific Plan EIR

Cultural resources are discussed in Chapter 4.4 of the Dumbarton TOD Specific Plan EIR (RBF 2011). The EIR concluded that the construction and development of the Specific Plan area is not likely to affect cultural resources since there are no recorded archaeological resources, including prehistoric sites. However, because the Specific Plan area is considered to be moderately sensitive for archaeological resources due to its proximity to historic marshlands at the edge of San Francisco Bay and the historic presence of a creek within one of the adjacent properties, a mitigation measure identified in the Dumbarton TOD Specific Plan EIR (i.e., Mitigation Measure [MM] 4.4-1a) would be required to reduce potential impacts to unknown resources to below a level of significance.

Impact Analysis

Archeological Resources and Human Remains

Based on the project-specific investigation (PCI; December 2013), no prehistoric, ethnohistoric, or historic-era cultural resources have been identified within or immediately adjacent to the project area (including the proposed off-site improvements at Enterprise Drive, Hickory Street, 'A' Avenue, and the access road/culvert near the southwestern site corner). Given these results and the past use of the property, particularly disturbance by industrial uses and related remediation activities, the project area and associated off-site improvements are considered to have a low sensitivity for discovery of archaeological resources, including human remains.

Within this area, prehistoric and ethnohistoric materials might include flaked stone tools, tool-making debris, stone milling tools, fire-affected rock, basketry, culturally modified animal bone, fishing implements, or soil darkened by cultural activities (midden). Historic-era materials might include building remains, agricultural or irrigation remnants, metal, glass, cans, or ceramic artifacts or debris.

Paleontological Resources

Due to the low sensitivity of the units that underlie the Specific Plan area, including the project site and associated off-site improvements, less than significant impacts to paleontological resources would occur during project grading and earthwork operations.

4.4.4 Level of Significance Before Mitigation

Historical, Archaeological, and Paleontological Resources

Although there are no known culturally significant resources on site and their discovery is unlikely, there is always the potential for the existence of buried archaeological materials within the project area and associated off-site improvements. If previously unidentified resources are

discovered during construction, these impacts could be significant. Pre-mitigation impacts to paleontological resources would be less than significant.

Human Remains

Impacts associated with the potential to uncover human remains would be considered a potentially significant impact.

4.4.5 Mitigation Measures

Relevant Mitigation Measures from the Dumbarton TOD Specific Plan EIR

Mitigation Measure (MM) 4.4-1a from the Dumbarton Specific Plan TOD EIR, as updated to reflect current requirements and mitigation approaches, is relevant to the proposed project and shall be implemented during the Gateway Station West Project construction phase to reduce its impacts to below a level of significance. An additional MM identified for cultural resources in the Specific Plan EIR (MM 4.4-1b) is related to direct impacts to NRHP-eligible buildings or structures, or development within approximately 325 feet (100 meters) of such buildings/structures or the Union Pacific Railroad corridor, and is thus not applicable to the proposed project.

MM 4.4-1a. Prior to the issuance of grading permits for future development allowed within the Dumbarton TOD Specific Plan area, project sponsors shall retain qualified archaeologists meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeologist. The qualified archaeologists shall train the construction crew on the mechanisms used to identify cultural resources and to caution them on the legal and/or regulatory implications of knowingly destroying cultural resources or removing artifacts or human remains from the project sites.

In accordance with State CEQA Guidelines Section 15064.5, should subsurface deposits believed to be cultural in origin be discovered during the construction of future development projects within the project site, then all work shall halt within a 200-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeologist, shall be retained at the project sponsor's expense to evaluate the significance of the find. Work shall not continue at the discovery site until the archaeologist conducts sufficient research and data collection to make a determination that the resource is either: (1) not cultural in origin; or (2) not potentially significant or eligible for listing on the NRHP or the CRHP.

If a potentially eligible resource is encountered, then the archaeologist, lead agency, and project sponsor shall arrange for either: (1) total avoidance of the resource, if possible; or (2) test excavations to evaluate eligibility and, if eligible, data recovery as mitigation. The determination shall be formally documented in writing and submitted to the lead agency and filed with the Northwest Information Center as verification that the provisions in this mitigation measure have been met.

If human remains of any kind are found during construction activities, all activities shall cease immediately and the Alameda County Coroner shall be notified as required by State law (Section 7050.5 of the Health and Safety Code). If the coroner determines the remains to be of Native American origin, he or she shall notify the NAHC. The NAHC shall then identify the most likely descendant(s) (MLD) to be consulted regarding treatment and/or reburial of the remains (Section 5097.98 of the PRC). If an MLD cannot be identified, or the MLD fails to make a recommendation regarding the treatment of the remains within 48 hours after gaining access to the remains, the City shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance. Work can continue once the MLD's recommendations have been implemented or the remains have been reburied if no agreement can be reached with the MLD (Section 5097.98 of the Public Resources Code).

4.4.6 Level of Significance After Mitigation

With implementation of mitigation measures, potential impacts to previously undiscovered human remains; and potentially significant unknown or unrecorded cultural resources as a result of earthmoving activities and development in the project site would be reduced to below a level of significance.

Less than significant impacts to paleontological resources would occur; thus, no mitigation would be required.

4.5 GEOLOGY AND SOILS

This section describes existing geologic/geotechnical conditions within the site and applicable off-site areas, identifies pertinent regulatory/industry standards, and evaluates potential impacts and associated mitigation measures related to project implementation.

Two geotechnical investigations have been conducted for the proposed project by Berlogar Stevens & Associates (BSA). These include a Design Level Geotechnical Investigation that involved field/laboratory analyses (including subsurface exploration data from previous on-site studies) and site-specific evaluation (BSA 2013), as well as a related Geology/Geologic Hazards Update Letter Report prepared for the proposed project (BSA 2014). These studies are summarized below along with information from other applicable sources including the Dumbarton TOD Specific Plan EIR (RBF 2011) and the City of Newark (City) General Plan (2013). The referenced Geotechnical Investigations are summarized below along with other applicable information, with the complete technical reports included in Appendix G of this SEIR.

4.5.1 Environmental Setting

Regional Topography/Geology

The project site is located within the Coast Ranges Geomorphic Province, a region characterized by northwest-trending structural features such as mountains, valleys and faults. The site is located between San Francisco Bay on the west and the East Bay Hills to the east, on a gently west-sloping alluvial plain. San Francisco Bay consists of a tectonic trough locally bounded by the active San Andreas and Hayward faults, with the bay and surrounding areas underlain by a thick sequence of Mesozoic (between approximately 65 and 250 million years old) and Cenozoic (less than approximately 65 million years old) rocks that are also exposed in local mountain ranges. These underlying strata include the late Mesozoic Franciscan Complex, which consists of a series of serpentinite, sandstone and claystone units that are complexly interbedded and structurally deformed by folding and faulting. These rocks are overlain locally by Cenozoic rocks including sandstone and claystone that are also complexly interbedded and deformed. The described geologic sequence is locally overlain with Quaternary (less than approximately two million years old) materials such as alluvium and topsoil.

Site Topography/Geology

The project site is generally level with a slight grade to the west as previously noted, and except for two distinct rock outcrops and several fill stockpiles described below, exhibits elevations of between approximately 4 and 9 feet above mean sea level (amsl). The two noted outcrops are identified as the North and South hills in the project geotechnical analyses, and extend to maximum elevations of approximately 35 and 30 feet amsl, respectively.

The North Hill is located in the northwestern portion of the site, and consists of sandstone and claystone units overlain by alluvial soils and artificial fill deposits extending to maximum depths of approximately 12 feet (Figure 4.5-1, *Project Site Geologic/Geotechnical Features*). Additional deposits associated with the North Hill observed during geotechnical investigation include magnesia (magnesium oxide) residue from previous salt production on portions of the hill (with these deposits reportedly removed), and gypsum in the former settling ponds located

west of North Hill (BSA 2013, refer to Figure 3-3). The South Hill is located in the southeastern portion of the site, and consists of naturally occurring asbestos-bearing serpentinite.

Several areas of stockpiled artificial fill are present in the northern half of the site, and exhibit thicknesses of between approximately 1 and 25 feet (refer to Figure 4.5-1). The on-site fill materials are a mix of clayey to silty gravel, silty to sandy clay and clayey sand, and are identified in the project Geotechnical Investigations as undocumented fill (i.e., fill not known to conform to current engineering standards for criteria such as composition and placement methodology).

Native alluvial soils are exposed at the surface in much of the southern site area, as well as in portions of the northern site. These soils also underlie most of the fill stockpiles, and are mapped as Pescadero Clay, Drained in the Alameda County (Western Part) Soil Survey (Natural Resources Conservation Service [NRCS], formerly the U.S. Soil Conservation Service [SCS]), 1981). The Pescadero Clay soils are described as very deep, poorly drained clays and clay loams formed in alluvium derived from sedimentary rock (NRCS 1981). Based on subsurface exploration (borings) conducted as part of the 2013 Geotechnical Investigation (as well as previous on-site borings), these soils extend to depths of between approximately 20 feet in the southern site area and 50 feet in the northeastern corner of the site, and also locally include an interbedded 2.5- to 6-foot thick silty sand layer at depths of between 8.5 and 16 feet. The upper portions of the on-site native soils exhibit high clay content and are classified as marginally to highly expansive (BSA 2014, 2013).

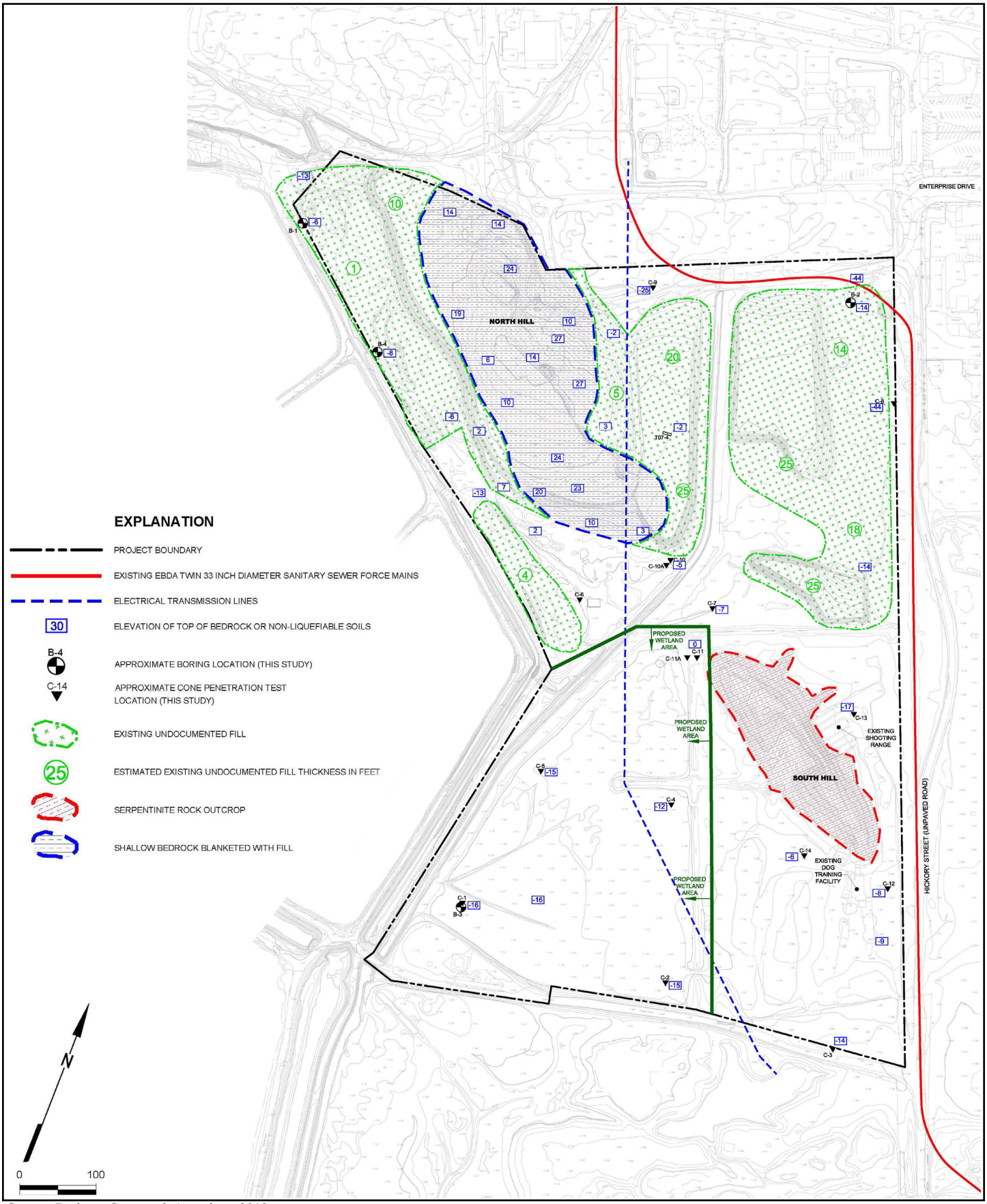
The area of potential off-site roadway improvements within the Hickory Street right-of-way (ROW) is essentially level, and is mapped as exhibiting Pescadero Clay soils (similar to the described on-site deposits), with no known additional materials such as rock outcrops or fill.

Groundwater

Shallow groundwater was encountered in alluvial deposits in the northern and southern portions of the site at depths of between 5 to 9 feet below the surface during geotechnical exploration (Borings B-1 through B-4 on Figure 4.5-1, BSA 2014, 2013). Additional on-site borings from previous geotechnical investigations and historical (2003) groundwater records for the site vicinity identified similar conditions, with groundwater observed at depths of between 6.5 and 18 feet on site, and nearby off-site groundwater levels documented at depths as shallow as five feet (BSA 2013). The 2013 Geotechnical Investigation also notes that local groundwater levels are anticipated to vary with conditions including "…tidal fluctuations, seasonal rainfall, time of year, water level in the adjacent salt ponds and local irrigation practices."

Structure/Seismicity

The project site is located within a seismically active region characterized by a series of northwest-trending faults associated with the San Andreas Fault System (Figure 4.5-2, *Regional Fault Map*). No active or potentially active faults, or California Geological Survey (CGS) Alquist-Priolo Earthquake Fault Zones are mapped or known to occur within or adjacent to the project site (CGS 2010, 2007; BSA 2013; City 2013). The closest active fault structures are associated with the Hayward Fault Zone, approximately 5.5 miles to the northeast. Active faults



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Source: Berlogar Stevens & Associates 2013

Project Site Geologic/Geotechnical Features

GATEWAY STATION WEST

Figure 4.5-1

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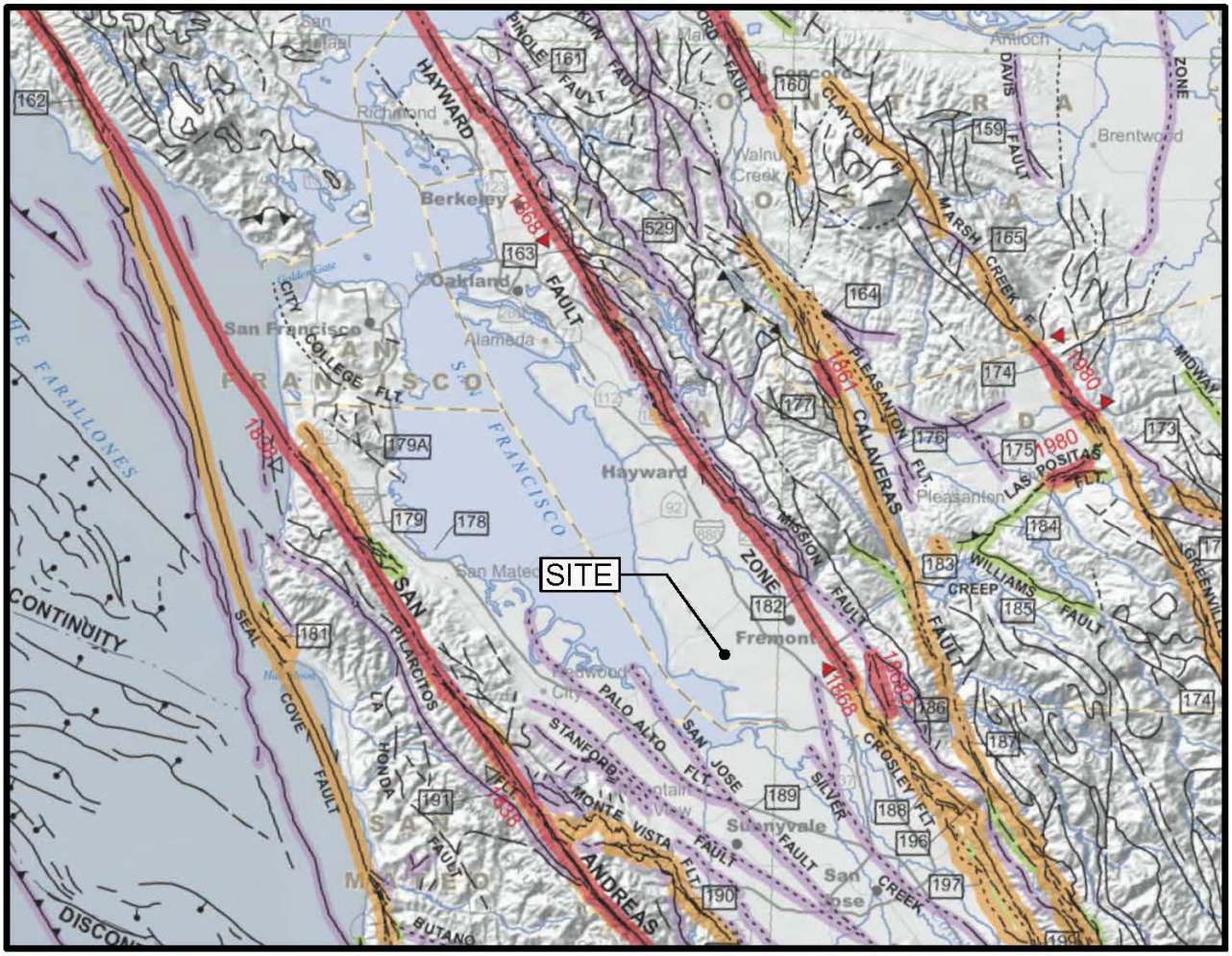

Source: Berlogar Stevens & Associates 2014

Regional Fault Map

GATEWAY STATION WEST

Figure 4.5-2

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are defined as those exhibiting historic seismicity or displacement of Holocene (less than approximately 11,000 years old) materials, while potentially active faults have no historic seismicity and displace Pleistocene (between approximately 11,000 and 2 million years old) but not Holocene strata. The described CGS fault zone designations are generally intended to "[r]egulate development near active faults so as to mitigate the hazard of surface fault rupture…" (CGS 2007). The closest seismic hazard designations to the project impact footprint are CGS Earthquake Fault Zones located along proximal sections of the Hayward Fault Zone, as previously described (CGS 2007).

A number of additional major active faults are located in the project site vicinity, as depicted on Figure 4.5-2. The project geotechnical investigations identify estimated maximum earthquake magnitudes along major regional faults as ranging from approximately 5.8 to 7.4. From the noted fault data and current (2013) California Building Code (CBC) seismic design parameters, the estimated peak ground acceleration (ground shaking) value on the project site with a 10 percent chance of being exceeded in a 50-year period (475-year earthquake recurrence interval) is approximately 0.52 g (where g equals the acceleration due to gravity, BSA 2014). This estimated acceleration value, along with other applicable seismic considerations such as motion frequency/duration and CBC design criteria, are used to evaluate related site-specific hazards including liquefaction. Additional information on CBC criteria and associated project seismic considerations is provided below under the discussion of *Regulatory Setting*.

4.5.2 Regulatory Setting

The proposed project is subject to a number of regulatory requirements and industry standards related to potential geologic hazards. These requirements and standards typically involve measures to evaluate risk and mitigate potential hazards through design and construction techniques. Specific guidelines encompassing geologic criteria that may be applicable to the design and construction of the proposed project are outlined in the Dumbarton TOD Specific Plan EIR, with related and/or additional information provided below.

State

Alquist-Priolo Earthquake Fault Zoning Act

The 1972 Alquist-Priolo Earthquake Fault Zoning Act was intended to prevent the construction of buildings used for human occupancy on the surface trace of active faults. It requires the State Geologist to delineate earthquake fault zones around the surface traces of active faults and publish maps showing these zones (refer to the discussion of Structure/Seismicity in Section 4.5.1).

Seismic Hazards Mapping Act

The 1990 Seismic Hazards Mapping Act was developed to protect the public from the effects of strong ground shaking, liquefaction, landslides or other ground failures, and additional hazards caused by earthquakes. The Act requires the State Geologist to delineate various seismic hazard zones and requires cities, counties, and other local permitting agencies to regulate certain development projects within these zones. Before a development permit is granted for a site

within a seismic hazard zone, a geotechnical investigation of the site is required and appropriate mitigation measures must be incorporated into the project design.

International Building Code

The International Building Code (IBC, which encompasses the former Uniform Building Code [UBC]) is produced by the International Code Council, Inc. (ICC) to provide standard specifications for engineering and construction activities. The IBC provides standard specifications for engineering and construction activities, including measures to address geologic and soil concerns. Specifically, these measures encompass issues such as seismic loading (e.g., classifying seismic zones and faults), ground motion, engineered fill specifications (e.g., compaction and moisture content), expansive soil characteristics, and pavement design. The referenced guidelines, while not comprising formal regulatory requirements per se, are widely accepted by regulatory authorities and are routinely included in related standards such as municipal grading codes. The IBC guidelines are regularly updated to reflect current industry standards and practices, including criteria such as The American Society of Civil Engineers (ASCE) and ASTM International (ASTM, formerly known as the American Society for Testing and Materials).

California Building Code

The CBC (California Code of Regulations [CCR] Title 24, Part 2) establishes minimum standards to safeguard public health, safety and general welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all applicable buildings and structures. The CBC encompasses standards from other applicable sources, including the IBC, ASCE and ASTM, with appropriate amendments and modifications to reflect site-specific conditions and requirements in California. The CBC encompasses a number of requirements related to geologic issues, including: general provisions (Chapter 1); structural design, including soil and seismic loading (Chapters 16/16A); structural tests and special inspections, including seismic resistance (Chapters 17/17A); soils and foundations (Chapters 18/18A); concrete (Chapters 19/19); masonry (Chapters 21/21A); wood, including consideration of seismic design categories (Chapter 23); construction safeguards (Chapter 33); and grading, including excavation, fill, drainage, and erosion control criteria (CBC Appendix G).

Local

City General Plan

The City General Plan contains a number of conditions, actions, and programs to help minimize the effects of seismic and geologic hazards. In particular, all new construction in the City is required to conform to the CBC and geotechnical reports are required for development in areas with potential geologic hazards. The City also requires that recommendations from geotechnical reports be incorporated into project design, and has adopted grading regulations to reduce the potential for erosion and to ensure the stability of filled areas.

4.5.3 Environmental Analysis

Significance Thresholds

The following significance thresholds derived from the Dumbarton TOD Specific Plan EIR and Appendix G of the State CEQA Guidelines are used in the evaluation of potential impacts from implementation of the proposed project. These thresholds are intended to ensure conformance with existing regulatory requirements and industry standards related to applicable geologic hazards.

The proposed project would have a significant impact related to geology and soils if it would:

- Expose people or structures to potentially substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking, seismic-related ground failure (including liquefaction), or landslides;
- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic formation unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse;
- Be located on expansive soil, as defined in Section 1803A.5.3 of the California Building Code (2013), creating substantial risks to life or property.

Based on analysis in the Dumbarton TOD Specific Plan EIR, impacts associated with the following thresholds were determined not to be significant for the Specific Plan (including the proposed project site), and no further related analysis is provided below in Section 4.5.3.3.

- Expose people or structures to potentially substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area.
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

Specifically, these thresholds are not applicable to the proposed project based on the following considerations: (1) there are no known active (or other) faults or Alquist-Priolo Earthquake Fault Zones within or adjacent to the site; and (2) the proposed project would connect to the City sewer system, and would not include the use of septic tanks or alternative wastewater disposal systems.

Summary of Findings from the Dumbarton TOD Specific Plan EIR

Potential hazards related to geology and soils are discussed in Chapter 4.5 of the Dumbarton TOD Specific Plan EIR (RBF 2011). The EIR concluded that project implementation would result in potentially significant impacts related to: (1) seismic-related ground shaking,

liquefaction and landslides; (2) soil erosion; (3) unstable soils; and (4) expansive soils. Associated mitigation (specifically, MM 4.5-1) was identified in the Dumbarton TOD Specific Plan EIR that requires all future development within the Specific Plan area to conduct associated design-level geotechnical investigation prior to development, and to incorporate all mitigation measures identified in such investigations as conditions for issuance of related grading permits. With implementation of this measure, the Dumbarton TOD Specific Plan EIR concluded that all identified potentially significant geology and soils impacts would be reduced below a level of significance. The geotechnical investigations summarized herein and appended to the SEIR conform with MM 4.5-1, as noted below.

It should also be noted that, in response to public review comments, the Dumbarton TOD Specific Plan EIR also included mitigation requirements regarding the protection of existing groundwater wells from development and the potential effects to groundwater resources from construction-related operations (such as soil improvements or installation of subdrains related to liquefaction) or dewatering activities. Because these mitigation requirements are not associated with geotechnical hazard issues identified in the above significance criteria, they are addressed in Sections 4.7, *Hazards and Hazardous Materials* (well protection), and 4.8, *Hydrology/Water Quality* (groundwater resource protection), respectively.

Impact Analysis

Seismic Impacts

Ground Shaking

Seismically generated ground shaking typically represents the most substantial hazard associated with earthquakes, and can affect the integrity of surface and subsurface facilities such as structures, foundations and utilities. Specifically, associated potential effects can occur directly from vibration-related damage to rigid structures, or indirectly through associated hazards including liquefaction (as described below). Based on analysis conducted as part of the project geotechnical investigations (and as previously described), the peak ground acceleration value with a 10 percent chance of being exceeded in a 50-year period at the project site (and related off-site areas) is given as 0.52g. This level of ground shaking could potentially result in significant impacts to proposed project facilities such as structures and utilities. The project geotechnical investigations identify a number of related measures to address potential seismic ground shaking effects, including: (1) incorporating CBC seismic parameters and other applicable regulatory/industry standards (e.g., the City General Plan) into the project design; (2) geotechnical review of project plans prior to approval; and (3) conducting field observations and testing during project construction to verify site-specific conditions and implement any necessary changes to design features and geotechnical recommendations. Accordingly, mitigation from the geotechnical investigations is identified below in Section 4.5.4 to verify that applicable regulatory requirements and geotechnical recommendations associated with potential ground shaking hazards are incorporated into the design and construction of the proposed project and avoid potentially significant ground shaking impacts.

As indicated in the project geotechnical investigations, typical measures to address ground shaking hazards may include standard efforts to: (1) incorporate applicable CBC seismic

parameters and other applicable regulatory/industry standards (e.g., the City General Plan) into the design of facilities such as structures, foundations/slabs, pavement, utilities, manufactured slopes, retaining walls and drainage facilities; (2) implement remedial grading techniques where appropriate (e.g., removing/replacing and/or reconditioning unsuitable soils); (3) use properly engineered fill per applicable regulatory/industry standards (e.g., IBC/CBC), including criteria such as appropriate fill composition, placement methodology, compaction levels, and moisture content; (4) conduct geotechnical review of the project plans prior to approval; and (5) perform field observations and testing during project construction to verify site-specific conditions and implement any necessary changes to design features and geotechnical recommendations.

Liquefaction

Liquefaction and related effects such as dynamic settlement can be caused by seismic ground shaking. Loose (cohesionless), saturated, and granular (low clay/silt content) soils with relative densities of less than approximately 70 percent are the most susceptible to these effects. Liquefaction results in a rapid pore-water pressure increase and a corresponding loss of shear strength, with affected soils behaving as a viscous liquid. Surface manifestations from these events can include loss of support for structures/foundations, excessive (dynamic) settlement, differential settlement (different degrees of settlement over relatively short distances), and lateral spreading (horizontal displacement on sloped surfaces as a result of underlying liquefaction). The site is within a State-designated Liquefaction Hazard Zone (BSA 2014), and a liquefaction analysis was conducted as part of the project geotechnical investigations for all portions of the site except for Parcel "GGG' in the southwestern property corner (where open space is proposed). The results of this analysis are summarized as follows:

- The northern portion of the site includes two areas with potentially significant impacts associated with liquefaction and related effects (as noted above). Specifically, these include an area encompassing approximately 153,000 square feet located along the northwestern site boundary (west of the North Hill), and an area encompassing approximately 247,000 square feet located in the northeastern site corner, as depicted on Figure 4.5-3, *Liquefaction Remediation Plan*. Based on related field/laboratory analyses, the 2013 Geotechnical Investigation concluded that potential liquefaction effects in the noted areas could generate approximately three inches of differential settlement within a 50-foot horizontal distance. Associated specific remediation efforts for liquefaction and related hazards would be determined based on final project design and related standard plan review and on-the-ground geotechnical observations and testing during project excavation, grading, and construction activities (BSA 2014, 2013). Accordingly, mitigation is identified below in Section 4.5.4 to verify that applicable regulatory requirements and geotechnical recommendations associated with potential liquefaction hazards are incorporated into the design and construction of the proposed project and potentially significant liquefaction impacts are avoided.

- Portions of the site not identified for remediation on Figure 4.5-3 are concluded to be "…minimally impacted by liquefaction…" in the project geotechnical investigations, with associated potential differential settlement of approximately one inch within a 50-foot horizontal distance (BSA 2013). As a result, potential impacts from liquefaction and related effects in areas outside of the described remediation zones would be less than significant.

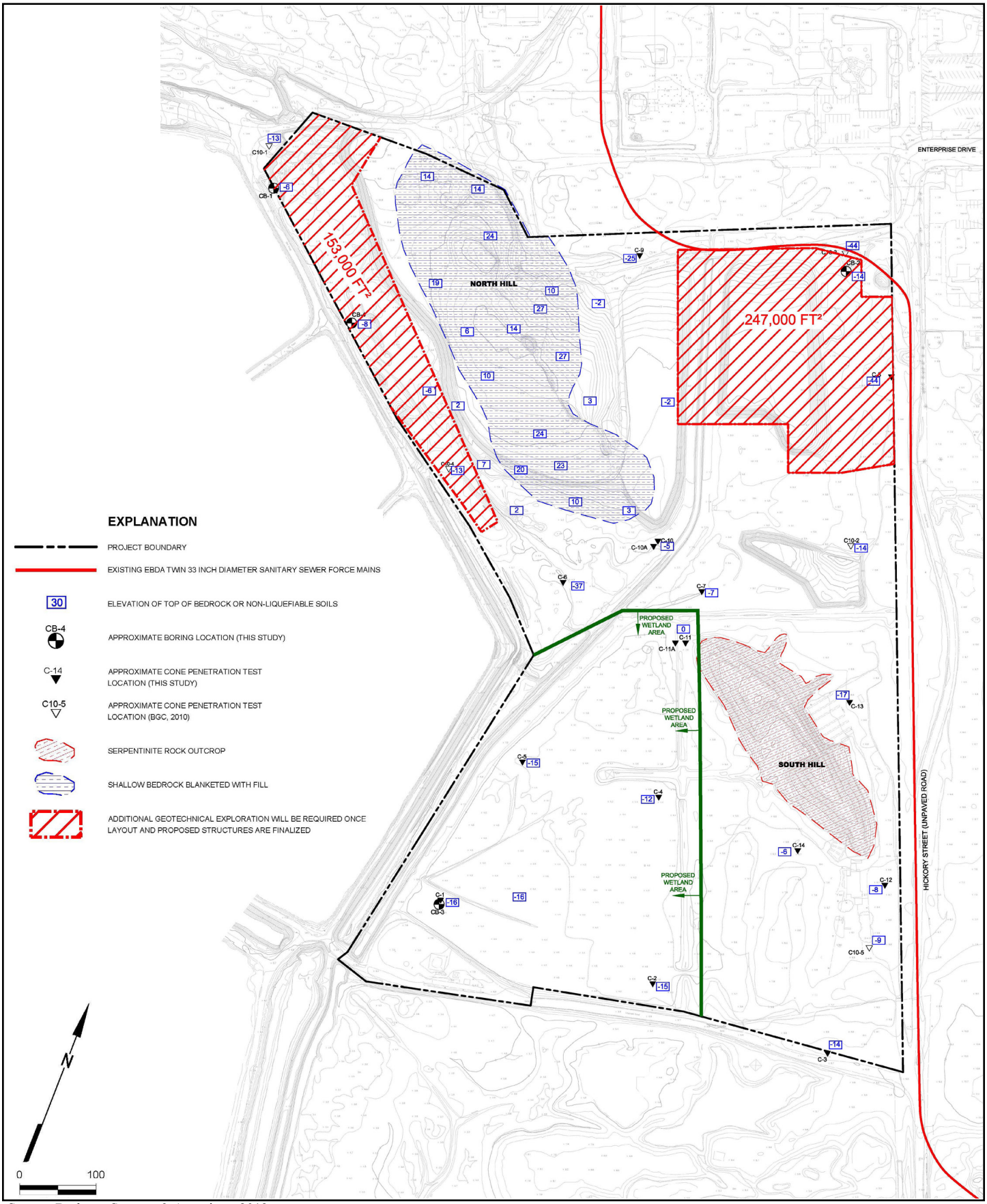
The proposed off-site road improvement areas within the Hickory Street, Enterprise Drive and 'A' Avenue ROW limits, as well as the proposed culvert replacement site near the southwestern site corner, were not specifically evaluated for liquefaction and related effects in the project geotechnical investigations. Accordingly, associated potential liquefaction impacts in these areas are considered potentially significant, and mitigation is identified below in Section 4.5.4 to verify that applicable regulatory requirements and geotechnical recommendations associated with potential liquefaction hazards are incorporated into the design and construction of the proposed off-site roadway and drainage improvements, to ensure that potentially significant liquefaction impacts are avoided.

As indicated in the project geotechnical investigations, typical measures to address liquefaction hazards may include standard efforts to: (1) install subdrains in appropriate areas to avoid near-surface saturation; (2) remove unsuitable deposits in areas proposed for development; (3) replace unsuitable materials with engineered fill (as described above for ground shaking); (4) implement soil improvements in applicable areas (e.g., deep dynamic compaction, vibrocompaction, grouting and deep soil mixing); (5) use appropriate foundation design (e.g., piles); and (6) perform applicable field observations and testing as noted for ground shaking.

Landslides and Slope Instability

The occurrence of landslides and other types of slope failures (e.g., rock falls) is influenced by a number of factors, including slope grade, geologic and soil characteristics, moisture levels and vegetation cover. Landslides can be triggered by a variety of potentially destabilizing conditions or events, such as gravity, fires, precipitation, grading and seismic activity. The Dumbarton TOD Specific Plan EIR identified generally low landslide potential within the Specific Plan area (including the project site and off-site road/drainage improvement areas), but noted that "landslides are a possibility at the northern rock outcrop on Cargill's property and also along levees." The referenced "northern rock outcrop" is the North Hill as previously described, with this area, along with the South Hill and the on-site undocumented fill deposits, exhibiting some potential for landslide and/or other slope instability hazards. Based on the proposed project design and related discussion in the project geotechnical investigations, however, these potential hazards would be avoided through the compliance with proposed grading parameters included in the project design (refer to Section 3.0, *Project Description*). Specifically, the proposed project grading plan entails cut and fill activities to: (1) remove the surface portions of the North and South hills; (2) remove and replace with engineered fill, and/or recompact/recondition, the undocumented fill deposits; and (3) place additional engineered fill on-site to provide an essentially level profile for proposed construction (with an overall proposed site grade of 0.5 to 2 percent). Based on these proposed project design features, potential landslides and slope instability impacts related to the North and South hills, as well as the undocumented on-site fill deposits, would be less than significant.

The existing levees located west of the project site have been engineered to conform with applicable requirements of the U.S. Army Corps of Engineers related to landslide factors of safety (BSA 2015). Based on this consideration, as well as the fact that the adjacent levee slopes grade down (away) from the project site, associated potential impacts related to levee instability would be less than significant.



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Source: Berlogar Stevens & Associates 2013

Liquefaction Remediation Plan

GATEWAY STATION WEST

Figure 4.5-3

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A number of manufactured slopes would also be constructed as part of the proposed development, and could potentially be subject to significant impacts related to instability. Under the proposed project design, manufactured slopes would be limited to maximum grades of 2:1 (horizontal to vertical). Manufactured slopes would be subject to appropriate requirements (per applicable regulatory and industry standards such as the CBC) to address potential instability hazards. Accordingly, related mitigation is identified below in Section 4.5.4 to verify that applicable regulatory requirements and geotechnical recommendations associated with potential manufactured slope instability hazards are incorporated into the design and construction of the proposed project and potentially significant slope stability impacts are avoided.

As indicated in the project geotechnical investigations, typical measures to address manufactured slope instability hazards may include standard efforts to: (1) implement appropriate (e.g., CBC) design restrictions for manufactured slope heights and grades (including structure setbacks if applicable); (2) use engineered fill (as described above for ground shaking); (3) install appropriate drainage facilities to prevent flows over or down manufactured slopes (e.g., brow ditches and slope drains); (4) minimize irrigation on slopes through methods such as the use of native and/or xeric landscaping); and (5) perform applicable field observations and testing as noted for ground shaking.

Erosion-related Impacts

Proposed excavation, grading, and construction activities on the project site and associated off-site road/drainage improvement areas could potentially result in impacts related to erosion and off-site sediment transport (sedimentation). Project activities would involve the removal of surface stabilizing features such as vegetation, excavation of existing compacted materials from cut areas, redeposition of excavated (and/or imported) material as fill in proposed development sites, and potential erosion from disposal of extracted groundwater (if required). While graded, excavated and filled areas associated with construction activities would be stabilized through efforts such as compaction and installation of hardscape and landscaping, erosion potential would be higher in the short-term than for existing conditions. Erosion and sedimentation are not considered to be long-term concerns for the proposed project, as developed areas would be stabilized through installation of hardscape or landscaping as noted. The project also would incorporate long-term water quality controls, including measures to avoid or reduce off-site sediment transport such as the use of bio-retention facilities, energy dissipators, irrigation controls and drainage facility maintenance (i.e., to remove accumulated sediment).

Potential impacts related to erosion and sedimentation would be addressed through required conformance with applicable regulatory requirements, including the National Pollutant Discharge Elimination System (NPDES) and related City and County of Alameda guidelines. Additional related analysis is provided in Section 4.8, *Hydrology/Water Quality*, of this EIR, due to the relationship with storm water and water quality standards.

Geologic and Soil Instability Impacts

Potential project-related impacts associated with landslides, liquefaction and related effects (including differential settlement and lateral spreading) are discussed above under associated headings. Evaluation of potential impacts related to additional instability issues is provided

below, including corrosive soils, subsidence, collapse of trench excavations, and the presence of shallow bedrock and/or groundwater.

Corrosive Soils

Based on site subsurface exploration and laboratory analysis, the project geotechnical investigations identified on-site soil samples that would be "…corrosive to steel and concrete in contact with the ground…", and note that "…Additional soil samples will need to be obtained for corrosion testing after site grades have been raised with import soil…" (BSA 2014). As a result, potential impacts from corrosive soils related to proposed project development are considered significant. Project implementation would be subject to applicable regulatory requirement related to corrosive soil hazards (e.g., the CBC) and, as previously described, site-specific conditions and remedial efforts associated with geologic hazards (including corrosive soils) would be verified through standard plan review and on-the-ground geotechnical observations and testing during project excavation, grading and construction activities. Accordingly, related mitigation is identified below in Section 4.5.4 to verify that applicable regulatory requirements and geotechnical recommendations associated with corrosive soil hazards are incorporated into the design and construction of the proposed project and potentially significant corrosive soils impacts are avoided.

As indicated in the project geotechnical investigations, typical measures to address corrosive soil hazards may include standard efforts to: (1) implement geotechnical recommendations and conform to established regulatory/industry standards (e.g., IBC/CBC); (2) conduct additional soil testing for corrosive soils; (3) remove corrosive deposits and replace with non-corrosive fill; (4) use corrosion-resistant construction materials (e.g., corrosion-resistant concrete and coated or non-metallic facilities); (5) install cathodic protection devices (e.g., use of a more easily corroded "sacrificial metal" to serve as an anode and draw current away from the structure to be protected); and (6) perform applicable field observations and testing as noted for ground shaking.

Subsidence

Potential impacts related to subsidence are typically associated with conditions such as large-scale fluid withdrawal (e.g., petroleum or groundwater). The Dumbarton TOD Specific Plan EIR notes that "…properties within the Specific Plan most likely have a low potential for subsidence." This conclusion is applicable to the proposed project, based on the following considerations: (1) the proposed project would not entail extensive fluid removal, with potential construction-related groundwater extraction expected to be relatively minor (refer to Section 4.8, *Hydrology/Water Quality*, for additional information); (2) the identified alluvial (clay) soils underlying the project site are described as predominantly "stiff or very stiff" (BSA 2013) and, along with the underlying bedrock formations, are generally not susceptible to subsidence; and (3) all fill materials placed on the site would be engineered as previously described (including proper compaction), and would not be susceptible to subsidence. Based on the described conditions, potential impacts related to subsidence from project implementation would be less than significant.

Collapse of Trench Excavations

The 2013 project Geotechnical Investigation identifies potential safety hazards associated with utility trench excavations, and concludes that: "where trench excavations are more than 5 feet deep, they should be slopped and/or shored." The analysis also notes that excavations are required to conform to applicable federal and state safety requirements (e.g., U.S. Occupational Safety and Health Administration [OSHA] and California Occupational Safety and Health Administration [Cal-OSHA] standards), and identifies a number of related measures for trench dimensions and shoring. Accordingly, potential impacts related to the stability of trench excavations are considered significant, and related mitigation is identified below in Section 4.5.4 to verify that applicable regulatory requirements and geotechnical recommendations associated with trench stability hazards are incorporated into the design and construction of the proposed project and potentially significant trench instability impacts are avoided.

As indicated in the project geotechnical investigations, typical measures to address trench excavation stability hazards may include standard efforts to: (1) limit trench slope grades to 1.5:1 in dry soils and 1:1 in cohesive soils (or shallower slopes if seepage is encountered); (2) use appropriate shoring per applicable regulatory requirements (CBC, OSHA and/or Cal-OSHA); and (3) perform applicable field observations and testing as noted for ground shaking.

Shallow Bedrock and/or Groundwater

The project geotechnical investigations identify potential hazards associated with the presence of shallow bedrock and/or groundwater. With respect to shallow bedrock, related hazards consist of potential for differential settlement from the placement of building pads (i.e., engineered fill) over shallow bedrock. Specifically, the presence of localized shallow bedrock underlying fill pads could generate differential settlement between these sites and adjacent areas with deeper fill after structural loading (i.e., building construction). The geotechnical investigations provide recommendations to address these concerns, involving over-excavation in applicable locations with shallow bedrock to allow placement of additional engineered fill. As a result, potential impacts from differential settlement related to shallow bedrock are considered significant, and related mitigation is identified below in Section 4.5.4 to verify that associated geotechnical recommendations are incorporated into the design and construction of the proposed project and potentially significant impacts related to shallow bedrock are avoided.

As indicated in the project geotechnical investigations, typical measures to address shallow bedrock hazards may include standard efforts to: (1) implement over-excavation in applicable areas of shallow bedrock to provide a minimum four-foot thick layer of engineered fill under building pads (per geotechnical recommendations and established regulatory/industry standards (e.g., IBC/CBC); and (2) perform applicable field observations and testing as noted for ground shaking.

For shallow groundwater, the project geotechnical investigations note that groundwater was observed at depths as shallow as five feet below the surface, and is likely influenced by tidal fluctuations (BSA 2014, 2013). A number of associated potential hazards are identified, including seepage/wet conditions in excavations for facilities such as deeper utilities, and the investigations provide recommendations to address these concerns, including dewatering and use

of vapor barriers and water stops in applicable locations. As a result, potential impacts from shallow groundwater are considered significant, and related mitigation is identified below in Section 4.5.4 to verify that associated geotechnical recommendations are incorporated into the design and construction of the proposed project and potentially significant impacts related to shallow groundwater are avoided. It should also be noted that regulatory requirements and mitigation measures related to potential dewatering at the project site are addressed in Section 4.8, and are not included in the mitigation identified for shallow groundwater below in Section 4.5.4.

As indicated in the project geotechnical investigations, typical measures to address shallow groundwater hazards may include standard efforts to: (1) utilize applicable facilities in areas of shallow groundwater to prevent seepage, potentially including water stops, geotextiles, vapor retarders, and aggregate layers, per geotechnical recommendations and established regulatory/industry standards (e.g., IBC/CBC); and (2) perform applicable field observations and testing as noted for ground shaking.

Expansive Soil Impacts

Expansive (or shrink-swell) behavior in soils is attributable to the water-holding capacity of clay minerals, and can adversely affect the integrity of facilities such as foundations, pavement and underground utilities. As previously noted, mapped on-site soils exhibit generally high clay content, with the project geotechnical investigations noting that expansion potential within the project site ranges from low to high. The project Geotechnical Update also concludes that "…Additional shallow soil samples should be obtained and tested for expansion potential before import material is brought to the site and after grading is completed…" (BSA 2014). Based on these considerations, potential impacts from expansive soils related to proposed project development are considered significant. Project implementation would be subject to applicable regulatory requirement related to expansive soil hazards (e.g., the CBC) and, as previously described, site-specific conditions and remedial efforts associated with geologic hazards (including expansive soils) would be verified through standard plan review and on-the-ground geotechnical observations and testing during project excavation, grading and construction activities. Accordingly, related mitigation is identified below in Section 4.5.4 to verify that applicable regulatory requirements and geotechnical recommendations associated with expansive soil hazards are incorporated into the design and construction of the proposed project and potentially significant impacts related to expansive soils are avoided.

As indicated in the project geotechnical investigations, typical measures to address expansive soil hazards may include standard efforts to: (1) conduct additional testing for expansive soils; (2) remove/replace and/or mix expansive materials with non-expansive engineered fill per established regulatory/industry standards (e.g., IBC/CBC); (3) cap expansive soils in place with an appropriate thickness of non-expansive engineered fill per established regulatory/industry standards; and (4) perform applicable field observations and testing as noted for ground shaking.

4.5.4 Level of Significance Before Mitigation

Prior to mitigation, implementation of the proposed project would result in significant potential impacts related to seismic ground shaking, liquefaction and associated effects such as dynamic

settlement, manufactured slope instability, geologic/soil instability (including corrosive soils, trench excavation instability, and the presence of shallow bedrock and groundwater), and expansive soils.

4.5.5 Mitigation Measures

Section 4.5 of the Dumbarton TOD Specific Plan EIR identified MM 4.5-1 to address identified potentially significant geology/soils impacts within the Specific Plan area in the form of requiring design-level geotechnical engineering investigations for all proposed development within the Specific Plan area. While this requirement has been met through the described project-specific geotechnical investigations (BSA 2014, 2013), additional project-specific requirements are identified below in MM GEO-1 to supplement the Specific Plan EIR mitigation and address site-specific geologic hazards issues identified in the project geotechnical investigations associated with seismic ground shaking, liquefaction and related effects, manufactured slope instability, geologic/soil instability, and expansive soils.

As noted above in Section 4.5.3, Chapter 4.5 of the Dumbarton TOD Specific Plan EIR also includes mitigation requirements regarding potential effects to groundwater resources from construction-related operations (such as soil improvements or installation of subdrains related to liquefaction) or dewatering activities (MM 4.5-2), and the protection of existing groundwater wells from development (MM 4.5-3). Because these mitigation requirements are not associated with the identified geotechnical significance criteria, they are addressed in Sections 4.7, *Hazards and Hazardous Materials* (well protection), and 4.8, *Hydrology/Water Quality* (groundwater resource protection) of this SEIR, respectively.

MM GEO-1: A site-specific geotechnical investigation shall be conducted by a qualified engineer or engineering geologist to verify that final project plans and/or construction operations incorporate applicable regulatory/industry requirements (e.g., IBC/CBC and City standards), recommendations contained within the project geotechnical investigations (BSA 2013, 2014), related plan review, and field observations/testing. Specifically, such verification shall encompass requirements and recommendations related to potenially significant impacts from seismic ground shaking, liquefaction and related effects, manufactured slope instability, geologic/soil instability (including corrosive soils, trench instability, and shallow bedrock/groundwater), and expansive soils. The results of the noted investigation shall be documented by the project engineer or engineering geologist and submitted to the City for review.

4.5.6 Level of Significance After Mitigation

Based on the implementation of all project design features and the mitigation measure described in this section, all identified potential impacts related to geologic and soil hazards would be avoided or reduced below a level of significance.

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4.6 GREENHOUSE GAS EMISSIONS

This section evaluates greenhouse gas (GHG) emissions associated with the proposed project and analyzes project compliance with applicable regulations. Consideration of the project's consistency with applicable plans, policies, and regulations, and an assessment of the introduction of new sources of GHGs are included in this section.

Information in this section is based primarily on information from the Dumbarton TOD Specific Plan and associated EIR (RBF 2011), the project Air Quality and Greenhouse Gas Emissions Technical Report (HELIX 2015a), the Transportation Evaluation (and associated update memo) for the proposed project (Fehr & Peers 2014, 2015), and the traffic analysis for the Dumbarton TOD Specific Plan (Section 4.14 of the Specific Plan EIR). Refer to Appendix D (Air Quality and Greenhouse Gas Technical Report) for the assumptions used in this analysis.

4.6.1 Environmental Setting

Climate Change Overview

Global climate change refers to changes in average climatic conditions on Earth, as a whole, including temperature, wind patterns, precipitation and storms. Historical records show that global temperature changes have occurred naturally in the past, such as during previous ice ages. To measure climate change, scientists look at long-term trends. The temperature trend, including data through 2010, shows the climate has warmed by approximately 0.36°Farenheit (F) per decade since the late 1970s (National Aeronautics and Space Administration [NASA] 2011).

Global temperatures are moderated by naturally occurring atmospheric gases. These gases are commonly referred to as GHGs because they function like a greenhouse by letting light in but preventing heat from escaping. These gases allow solar radiation (sunlight) into the Earth's atmosphere, but prevent radiative heat from escaping, thus warming the Earth's atmosphere. The resulting balance between incoming solar radiation and outgoing radiation from both the Earth's surface and the atmosphere maintains the planet's habitability. The Earth's surface temperature averages about 58°F because of the greenhouse effect. Without it, the Earth's average surface temperature would be somewhere around an uninhabitable 0°F.

GHGs are emitted by natural processes and human (anthropogenic) activities. Anthropogenic GHG emissions are primarily associated with: (1) the burning of fossil fuels during motorized transport, electricity generation, natural gas consumption, industrial activity, manufacturing, and other activities; (2) deforestation; (3) agricultural activity; and (4) solid waste decomposition.

The United Nations Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. The statistical models show a "high confidence" that temperature increase caused by anthropogenic GHG emissions could be kept to less than two degrees Celsius relative to pre-industrial levels if atmospheric concentrations are stabilized at about 450 parts per million (ppm) carbon dioxide equivalent (CO_2e) by the year 2100 (IPCC 2014).

Types of Greenhouse Gases

The GHGs, as defined under California's Assembly Bill (AB) 32, include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Although water vapor is the most abundant and variable GHG in the atmosphere, it is not considered a pollutant; it maintains a climate necessary for life.

CO_2 is the most important and common anthropogenic GHG. Natural sources include the decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungi; evaporation from oceans; and volcanic outgassing. Anthropogenic sources of CO_2 include burning fuels, such as coal, oil, natural gas, and wood. Data from ice cores indicate that CO_2 concentrations remained steady prior to the current period for approximately 10,000 years. The atmospheric CO_2 concentration in 2010 was 390 ppm, 39 percent above the concentration at the start of the Industrial Revolution (about 280 ppm in 1750). As of June 2014, the CO_2 concentration exceeded 397 ppm (National Oceanic and Atmospheric Administration [NOAA] 2014).

CH_4 is a gas and is the main component of natural gas used in homes. A natural source of methane is from the decay of organic matter. Geological deposits known as natural gas fields contain methane, which is extracted for fuel. Other sources are from decay of organic material in landfills, fermentation of manure, and cattle digestion.

N_2O is produced by both natural and human-related sources. N_2O is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste. Primary human-related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic (fatty) acid production, and nitric acid production.

Fluorocarbons are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. Chlorofluorocarbons are nontoxic, nonflammable, insoluble, and chemically nonreactive in the troposphere (the level of air at Earth's surface). Chlorofluorocarbons were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone; therefore, their production was stopped as required by the Montreal Protocol.

SF_6 is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF_6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semi-conductor manufacturing, and as a tracer gas for leak detection.

GHGs have long atmospheric lifetimes that range from one year to several thousand years. Long atmospheric lifetimes allow for GHGs to disperse around the globe. Because GHGs vary widely in the power of their climatic effects, climate scientists have established a unit called global warming potential (GWP). The GWP of a gas is a measure of both potency and lifespan in the atmosphere as compared to CO_2. For example, because methane and N_2O are approximately 25 and 298 times more powerful than CO_2, respectively, in their ability to trap heat in the atmosphere, they have GWPs of 25 and 298, respectively (CO_2 has a GWP of 1). CO_2e is a quantity that enables all GHG emissions to be considered as a group despite their varying GWP.

The GWP of each GHG is multiplied by the prevalence of that gas to produce CO_2e. The atmospheric lifetime and GWP of selected GHGs are summarized in Table 4.6-1, *Global Warming Potentials and Atmospheric Lifetimes*. As shown in the table, the GWP for common GHGs ranges from 1 (CO_2) to 22,800 (SF_6).

Table 4.6-1
GLOBAL WARMING POTENTIALS AND ATMOSPHERIC LIFETIMES

Greenhouse Gas	Atmospheric Lifetime (years)	Global Warming Potential (100-year time horizon)
Carbon Dioxide (CO_2)	50-200	1
Methane (CH_4)	12	25
Nitrous Oxide (N_2O)	114	298
HFC-134a	14	1,430
PFC: Tetraflouromethane (CF_4)	50,000	7,390
PFC: Hexafluoroethane (C_2F_6)	10,000	12,200
Sulfur Hexafluoride (SF_6)	3,200	22,800

Source: IPCC 2007
HFC: hydrofluorocarbon; PFC: perfluorocarbon

4.6.2 Regulatory Setting

Federal

Federal Clean Air Act

The U.S. Supreme Court ruled in 2007, in *Massachusetts v. U.S. Environmental Protection Agency* (USEPA), that CO_2 is an air pollutant, as defined under the Clean Air Act (CAA), and that the USEPA has the authority to regulate emissions of GHGs. The USEPA announced that GHGs (including CO_2, CH_4, N_2O, HFC, PFC, and SF_6) threaten the public health and welfare of the American people. This action was a prerequisite to finalizing the USEPA's GHG emissions standards for light-duty vehicles, which were jointly proposed by the USEPA and the United States Department of Transportation's National Highway Traffic Safety Administration (NHTSA).

Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards

The USEPA and the NHTSA have been working together on developing a national program of regulations to reduce GHG emissions and to improve fuel economy of light-duty vehicles. The USEPA is finalizing the first-ever national GHG emissions standards under the Clean Air Act, and the NHTSA is finalizing Corporate Average Fuel Economy (CAFE) standards under the Energy Policy and Conservation Act. In 2010, the USEPA and NHTSA announced joint Final Rulemaking establishing standards for 2012 through 2016 model year vehicles. This was followed up in 2012, when the agencies issued a Final Rulemaking with standards for model years 2017 through 2025. The rules require these vehicles to meet an estimated combined average emissions level of 250 grams per mile by 2016, decreasing to an average industry fleet-wide level of 163 grams per mile in model year 2025. The 2016 standard is equivalent to

35.5 miles per gallon (mpg), and the 2025 standard is equivalent to 54.5 mpg if the levels were achieved solely through improvements in fuel efficiency. The agencies expect, however, that a portion of these improvements will be made through improvements in air conditioning leakage and the use of alternative refrigerants that would not contribute to fuel economy. These standards would cut GHG emissions by an estimated 2 billion metric tons and 4 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2017–2025). The combined USEPA GHG standards and NHTSA CAFE standards resolve previously conflicting requirements under both federal programs and the standards of the State of California and other states that have adopted the California standards (USEPA 2011; USEPA and NHTSA 2012).

State

California Code of Regulations

California Code of Regulations (CCR) Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Energy-efficient buildings require less electricity, natural gas, and other fuels.

The Title 24 standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The 2013 update to the 2008 standards went into effect in July 2014.

The California Green Building Standards Code (24 CCR, Part 11) is Part 11 of the California Building Standards Code in Title 24 of the California Code of Regulations and is also known as the CALGreen Code (CBSC 2014). The CALGreen Code contains mandatory requirements for new residential and nonresidential buildings (including buildings for retail, office, public schools and hospitals) throughout California. The current version of the code went into effect on July 1, 2014, and includes energy efficiency updates resulting in energy usage reductions of 25 percent for residential buildings and 30 percent for nonresidential building (California Energy Commission [CEC] 2012).

The development of the CALGreen Code is intended to: (1) cause a reduction in GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives by the Governor. In short, the code is established to reduce construction waste; make buildings more efficient in the use of materials and energy; and reduce environmental impact during and after construction.

The CALGreen Code contains requirements for construction site selection, storm water control during construction, construction waste reduction, indoor water use reduction, material selection, natural resource conservation, site irrigation conservation, and more. The code provides for design options allowing the designer to determine how best to achieve compliance for a given site or building condition. The code also requires building commissioning, which is a process for the verification that all building systems, like heating and cooling equipment and lighting systems, are functioning at their maximum efficiency.

Assembly Bill 1493

AB 1493 (Pavley) requires that CARB 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 CARB to be vehicles whose primary use is noncommercial personal transportation in the State." In 2009, CARB adopted amendments to the Pavley regulations that intend to reduce GHG emissions in new passenger vehicles from 2009 through 2016. The amendments bind California's enforcement of AB 1493 (starting in 2009), while providing vehicle manufacturers with new compliance flexibility. The amendments also prepare California to merge its rules with the federal CAFE rules for passenger vehicles (CARB 2013a). In 2012, CARB approved a new emissions-control program for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single packet of standards called Advanced Clean Cars (CARB 2013a).

Executive Order S-3-05

In 2005, Executive Order (EO) S-3-05 proclaimed that California is vulnerable to climate change impacts. It declared that increased temperatures could reduce snowpack in the Sierra Nevada, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. In an effort to avoid or reduce climate change impacts, EO S-3-05 calls for a reduction in GHG emissions to the 2000 level by 2010, to 1990 levels by 2020, and to 80 percent below 1990 levels by 2050.

Executive Order S-1-07

This EO, signed by Governor Schwarzenegger in 2007, directs that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by the year 2020. It orders that a Low Carbon Fuel Standard (LCFS) for transportation fuels be established for California and directs the CARB to determine whether a LCFS can be adopted as a discrete early action measure pursuant to AB 32. The CARB approved the LCFS as a discrete early action item with a regulation adopted and implemented in 2010. In 2011, District Judge Lawrence O'Neill issued a preliminary injunction blocking the CARB from implementing LCFS for the remainder of the *Rocky Mountain Farmers Union* litigation. The injunction was lifted in 2012 so that CARB can continue enforcing the LCFS pending CARB's appeal of the federal district court ruling.

Executive Order B-30-15

On April 29, 2015, EO B-30-15 established a California GHG reduction target of 40 percent below 1990 levels by 2030. The EO aligns California's GHG reduction targets with those of leading international governments, including the 28 nation European Union. California is on track to meet or exceed the target of reducing greenhouse gas emissions to 1990 levels by 2020, as established in AB 32. California's new emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the ultimate goal established by EO S-3-05 of reducing emissions 80 percent under 1990 levels by 2050.

Senate Bill 375

Senate Bill (SB) 375 was signed and passed into law in 2008 enhancing CARB's ability to reach the AB 32 goals. Specifically, SB 375 requires that CARB set regional targets for the purpose of reducing GHG emissions from passenger vehicles for the years 2020 and 2035. If regions develop integrated land use, housing, and transportation plans that meet the SB 375 targets, new projects in these regions can be relieved of certain review requirements of CEQA. The targets apply to the 17 regions in the state managed by metropolitan planning organizations (MPO). The CARB adopted its final targets in 2010.

The Metropolitan Transportation Commission (MTC) is the MPO for the nine-county San Francisco Bay Area region. MTC's targets are a 7 percent per capita reduction from 2005 by 2020, and 15 percent per capita reduction from 2005 by 2035. MTC's *Plan Bay Area* is the Bay Area's Regional Transportation Plan (RTP)/ Sustainable Community Strategy (SCS). The *Plan Bay Area* was released for review and then adopted in 2013. The SCS sets a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce GHG emissions from transportation (excluding goods movement) beyond the per capita reduction targets identified by CARB.

According to *Plan Bay Area*, the Plan meets a 16 percent per capita reduction of GHG emissions by 2035 and a 10 percent per capita reduction by 2020 from 2005 conditions.

Assembly Bill 32

The California Global Warming Solutions Act of 2006, widely known as AB 32, requires that CARB develop and enforce regulations for the reporting and verification of statewide GHG emissions. CARB is directed to set a GHG emission limit, based on 1990 levels, to be achieved by 2020. The bill requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.

California Air Resources Board Scoping Plan

In 2008, CARB adopted the Scoping Plan (CARB 2008) as directed by AB 32. The Scoping Plan proposes a set of actions designed to reduce overall GHG emissions in California to the levels required by AB 32. Measures applicable to development projects include those related to energy-efficiency building and appliance standards, the use of renewable sources for electricity generation, regional transportation targets, and green building strategy. Relative to transportation, the Scoping Plan includes nine measures or recommended actions related to reducing vehicle miles traveled and vehicle GHGs through fuel and efficiency measures. These measures would be implemented statewide rather than on a project-by-project basis.

The CARB released the First Update to the Climate Change Scoping Plan in 2014 to provide information on the development of measure-specific regulations and to adjust projections in consideration of the economic recession. The Scoping Plan's current estimate of the necessary GHG emission reductions to achieve the goal of AB 32 (i.e., 1990 levels by 2020) is 78 million metric tons of CO_2 equivalent (MMT CO_2e; CARB 2014c). The CARB is forecasting that this would be achieved through the following reductions by sector: 25 MMT CO_2e for energy, 23 MMT CO_2e for transportation, 5 MMT CO_2e for high-GWP GHGs, and 2 MMT CO_2e for

waste. The remaining 23 MMT CO_2e would be achieved through Cap-and-Trade Program reductions. This reduction is flexible—if CARB receives new information and changes the other sectors' reductions to be less than expected, the agency can increase the Cap-and-Trade reduction (and vice versa).

Local

City General Plan

Originally adopted in 1992 and subsequently amended through 2013, the existing Newark General Plan was adopted in December of 2013, and contains nine elements that cover the State-mandated topics of land use, circulation, housing, open space, conservation, safety, and noise, as well as three optional topics: economic development; health and wellness; and community services and facilities. The existing General Plan described above includes several amendments to the 1992 General Plan Land Use Map made to enact major recent planning initiatives undertaken by the City, including the Area 3 and 4 Specific Plan, the 2009-2014 Housing Element, and the Dumbarton TOD Specific Plan. Additionally, the City has prepared and adopted a Climate Action Plan (CAP; City 2010a) described below. The 2013 General Plan land use designations allow for development of 2,500 new homes, 195,000 square feet of professional office and other commercial uses, 35,000 square feet of new retail uses, and 16.3 acres of parkland in this focus area, including a candidate connection to the San Francisco Bay Trail within the Dumbarton TOD Specific Plan. Additionally, the 2013 General Plan emphasizes the application of green building and sustainable development principles in the design of buildings, streetscapes, and landscapes throughout the city, including the Dumbarton TOD Specific Plan focus area.

City Climate Action Plan

The CAP was prepared to identify and evaluate feasible and effective policies to reduce GHG emissions in order to reduce energy costs, protect air quality, and improve the economy and the environment. The CAP identifies a 5 percent GHG reduction target from 2005 municipal emissions by July 2012, a 5 percent reduction in city and community emissions by July 2015, and a 15 percent decrease in communitywide emissions from 2005 levels by 2020. Data collected by the City through the GHG monitoring process show that the City has already achieved the first two of these goals (City 2013a).

Existing Greenhouse Gas Levels

Global, National, State and Local GHG Emissions

In 2011, total GHG emissions worldwide were estimated at 43,646 MMT CO_2e (World Resources Institute 2014). The United States contributed the second largest portion of GHG emissions (behind China) at 15 percent of global emissions. The total U.S. GHGs were 6,526 MMT CO_2e in 2012 (USEPA 2014). On a national level, approximately 28 percent of GHG emissions were associated with transportation and about 32 percent were associated with electricity generation. In 2012, California produced a total of 459 MMT CO_2e (CARB 2014c). The transportation sector is the single largest category of California's GHG emissions, accounting for 37 percent of emissions statewide in 2012 (CARB 2014c).

According to the City GHG Inventory that was prepared for the General Plan, the City's total community emissions totaled 470,586 MT CO_2e in 2012. The largest contributor of GHG in the community was the transportation category, which comprised 57 percent (236,354 MT CO_2e) of the total amount. The second highest contributor was the nonresidential energy category, which contributed 122,054 MT CO_2e, or 29 percent of the total.

4.6.3 Environmental Analysis

Several project description considerations are taken into account in the GHG analysis for the Gateway Station West Project, as described below.

Significance Thresholds

The following significance thresholds derived from the Dumbarton TOD Specific Plan EIR and Appendix G of the State CEQA Guidelines are used in the evaluation of potential GHG impacts from implementation of the proposed project.

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

As discussed in Section 15064.4 of the State CEQA Guidelines, the determination of the significance of GHG emissions calls for a careful judgment by the lead agency, consistent with the provisions in Section 15064. Section 15064.4 further provides that a lead agency should make a good faith effort, based to the extent possible on scientific and factual data, to describe, calculate, or estimate the amount of GHG emissions resulting from a project.

As shown in Table 4.6-2, *BAAQMD Greenhouse Gas Thresholds*, the BAAQMD 2010 CEQA Air Quality Guidelines do not have thresholds for construction GHG emissions; however, this report includes these emissions for informational purposes. For a project with a high-density housing option in a focused TOD area to meet the operational thresholds, it must show compliance with a qualified GHG reduction strategy, or be below a screening-level emission rate of 4.6 MT CO_2e per service population (residents plus employees) per year (SP/yr). This emission level is based on the amount of vehicle trips, the typical energy and water use, and other factors associated with projects.

Table 4.6-2
BAAQMD GREENHOUSE GAS THRESHOLDS

Pollutant	Construction-Related	Operational-Related
	Average Daily Emissions (pounds/day)	Maximum Annual Emissions (tons/year)
GHGs – Projects other than Stationary Sources	No threshold	Compliance with Qualified GHG Reduction Strategy OR 4.6 MT CO_2e/SP/yr (residents + employees)

Source: BAAQMD CEQA Guidelines Updated May 2010.

If a project generates more than 4.6 MT CO_2e/SP/yr, the significance of the GHG emissions are evaluated against the reductions from the "business as usual" (BAU) condition. The BAU condition represents the emissions that would be expected to occur in the absence of any project or government-mandated GHG reduction measures.

Summary of Findings from the Dumbarton TOD Specific Plan EIR

GHG emissions related to the Dumbarton TOD Specific Plan are discussed in Chapter 4.6 of the Dumbarton TOD Specific Plan EIR (RBF 2011). The Specific Plan EIR concluded that GHG emissions generated by the Specific Plan would have a potentially significant impact on the environment and recommended a mitigation measure related to energy efficiency and transportation reductions for future development within the Specific Plan Area. However, implementation of the Specific Plan would not conflict with any applicable GHG reduction plans, policies or regulations.

Impact Analysis

Project Design Features

MM 4.6-1 was identified in the Specific Plan EIR to address GHG-related emissions. The measure included a list of items to be incorporated into project-specific design, demonstrated prior to issuance of building permits, and implemented during proposed project development (and are indicated by asterisk below, with measures that have been expanded upon indicated by a double asterisk). In addition to the project characteristics described in Section 3.0, *Project Description*, of this SEIR, the project proposes to incorporate several features to ensure GHG emissions are reduced to the maximum extent feasible. These features include several requirements of the CALGreen and Green Point Rated Program that would increase energy efficiency, reduce area source pollutants, and reduce the operational GHG emissions. These features include, but are not limited to, the following, as outlined in MM 4.6-1 of the Dumbarton TOD Specific Plan EIR:

- Energy efficiency of at least 20 percent beyond Title 24**
- Sustainably designed plumbing systems and low-flow water fixtures
- Efficient mechanical and electrical equipment, appliances, and lighting fixtures
- Low-water landscape irrigation system
- Low-water landscape practices such as use of soil amendments and top dressing for moisture retention, and placing trees to reduce heat gain on hard surfaces
- Weather- or soil-moisture-based irrigation controllers
- Drought-tolerant landscaping
- Low-VOC flooring, paint, and construction adhesives
- Low-VOC insulation
- Natural gas fireplaces

- Shade trees in parking areas and throughout project site**
- Cool roof materials (albedo/reflectivity greater than or equal to 30)*
- Smart meters and programmable thermostats*
- Roof anchors and wiring for solar panel installations**
- Residences are within walking distance (0.25-mile) from a proposed transit station**
- Maximum interior daylight*
- Secure bike parking (at least 1 bicycle space per 20 vehicle spaces)*
- Information on transportation alternatives will be provided to the public (i.e., bike maps and transit schedules)*

Proposed Construction Phasing

For the purpose of the GHG analysis, project construction was assumed to begin in February 2016 and be completed in March 2020. The anticipated construction schedule used to calculate daily emissions is listed in Table 4.2-4. It should also be noted, as described in Section 4.2, *Air Quality*, that the currently proposed construction schedule assumes start/termination dates that are approximately seven months later than those identified for the previous construction schedule. The associated GHG emissions calculations outlined below are still applicable, however, based on the modeling considerations described in Section 4.2, as well as the fact that GHG emissions are calculated on a yearly basis, with the project calendar years shown in Table 4.6-3, *Estimated Construction GHG Emissions*, to remain unchanged under the currently proposed construction schedule (i.e., with the start date to change from February 2016 to September 2016, and the termination date to shift from March 2020 to October 2020). As a result, the modeling analysis provided for project construction in Appendix D is conservative as noted, and is considered applicable for the currently proposed project construction schedule (with additional modeling therefore not required or proposed).

Generation of GHG Emissions

Construction Emissions

GHG emissions during construction would be associated with the use of heavy equipment and by construction worker commute trip. Details on the construction phases and equipment usage are contained in the Air Quality and Greenhouse Gas Technical Report (Appendix D).

Emissions of GHGs related to the construction of the project would be temporary. As shown in Table 4.6-3 below, total annual GHG emissions associated with construction are estimated at 5,981 MT of CO_2e.

Table 4.6-3
ESTIMATED CONSTRUCTION GHG EMISSIONS (MT/yr)

Calendar Year	CO_2	CH_4	N_2O	Total CO_2e
2016	839	0.12	0.00	842
2017	1,592	0.12	0.00	1,594
2018	1,829	0.13	0.00	1,832
2019	1,675	0.11	0.00	1,677
2020	36	0.00	0.00	36
TOTAL (metric tons)*	**5,971**	**0.49**	**0.00**	**5,981**

Source: CalEEMod (output data are provided in Appendix A to SEIR Appendix D prepared by HELIX)
*Totals include rounding.

The BAAQMD 2010 CEQA Air Quality Guidelines do not have guiding principles for construction GHG emissions; however, they are included here for informational purposes. Therefore, impacts would be less than significant.

Operational Emissions

The project's GHG emissions were estimated separately for the various sources of operational emissions: (1) emissions associated with energy use and area sources, including electricity and natural gas, and area sources such as hearths and landscaping equipment; (2) emissions from vehicle use; (3) emissions associated with obtaining and consuming potable water; and (4) emissions associated with solid waste generation.

Energy Use and Area Sources

Emissions associated with energy use would arise from the combustion of fossil fuels to provide energy for the proposed project. The energy use is associated with building electricity and natural gas usage (non-hearth). The electricity energy use is expressed in kilowatt hours (kWh) per size metric for each land use subtype. Natural gas use is expressed in kilo British Thermal Units (kBTU) per size metric for each land use subtype.

At project buildout, the largest sources of stationary GHG emissions would be electricity use. Projects that increase electricity consumption also result in an indirect increase in GHG emissions. The electricity use associated with the project was estimated using CalEEMod defaults and exceedance of 2013 Title 24 Standards by 20 percent. The annual GHG emissions from energy use are estimated to be 1,911 MT of CO_2e per year. Approximately 39 MT of CO_2 per year would result from other area sources (primarily natural gas hearths).

Vehicle Use

As discussed in the CARB's *Staff Report California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit* (CARB 2007), vehicular emissions are the greatest contributor to GHG emissions. Because the project applicant does not have direct control over the types of vehicles or emission/fuel standards, the effect of California-mandated programs to reduce GHG emissions from vehicles was evaluated and included in the CalEEMod model. The reductions in GHG

emissions anticipated through implementation of the Federal CAFE standards and Pavley I fuel efficiency standard (analogous to the Federal CAFE standard), as well as the effects of light/heavy vehicle efficiency/hybridization programs are included in the CalEEMod model results.

Mobile-source GHG emissions conservatively assumed the projected trip generation rates of 4,838 ADT before the nine percent internal capture reduction (Fehr & Peers 2015). Based on the default CalEEMod model for projects within Alameda County, the total annual VMT was estimated at 10.8 million miles, and emissions of CO_2e vehicle GHG were estimated at 4,571 MT CO_2e per year.

Water Consumption

Water use and energy use are often closely linked. The provision of potable water requires large amounts of energy associated with the following: (1) source and conveyance, (2) water treatment, (3) distribution, (4) end use, and (5) wastewater treatment. The water consumption estimates that the land uses contribution of GHG emissions associated with supplying and treating the water and wastewater. Supplying water involves bringing the water from its primary source such as the ground, river, or snowpack to the treatment plant. Distributing the water involves conveying the water from the treatment plant to the end users. The electricity intensities are multiplied by the utility intensity factors for the GHGs and are classified as indirect emissions. The default electricity intensity is from the CEC's *2006 Refining Estimates of Water-Related Energy Use in California* using the average values for northern California. The model results take into account the assumption that the project would incorporate a water use reduction program, which would reduce water usage by 20 percent.

The estimate of GHG emissions from water consumption for the proposed project is 103 MT of CO_2e per year.

Solid Waste Generation

Solid waste generated by the project would also contribute to GHG emissions. Treatment and disposal of solid waste produces significant amounts of methane and the GHG emissions from solid waste generated by the project were estimated using CalEEMod. The model results take into account the assumption that the project would incorporate a solid waste reduction program, which would reduce solid waste by 75 percent. The project would generate 58 MT of CO_2e from solid waste per year.

Other GHG Emissions

Ozone is also a GHG; however, unlike the other GHGs, ozone in the troposphere is relatively short-lived and, therefore, is not global in nature. According to the CARB, it is difficult to make an accurate determination of the contribution of ozone precursors (NO_X and VOCs) to global warming (CARB 2004). Therefore, it is assumed that emission of ozone precursors associated with the project would not significantly contribute to climate change. At present, there is a federal ban on chlorofluorocarbons (CFCs); therefore, it is assumed that the project would not generate emissions of this GHG. Implementation of the project may emit a small amount of HFC emissions from leakage, service of, and from disposal at the end of the life of refrigeration

and air-conditioning equipment. However, details regarding refrigerants to be used in future construction are unknown at this time. The PFCs and SF_6 are typically used in industrial applications. No industrial applications would occur from the project. Therefore, it is not anticipated that the project would contribute significant emissions of these GHGs.

Operational Summary

Evaluation of the GHG emissions from the proposed project is based on the net increase in emissions compared to the baseline. Table 4.6-4, *Proposed Project Operational Annual GHG Emissions*, includes the total amount of GHG emissions expected from the project.

The increase in GHG emissions from the project would be 6,682 MT of CO_2e per year. The BAAQMD's 2010 CEQA Air Quality Guidelines establishes a threshold of 4.6 MT CO_2e per service population (residents plus employees) per year. The service population for the proposed project would to be approximately 1,684 residents as estimated by CalEEMod. By factoring in the service population, the project emissions would equal 4.0 MT CO_2e/SP/yr, which is lower than the BAAQMD threshold. Therefore, the project would not result in a significant impact associated with the emissions of GHG, and no further analysis or mitigation is required.

Table 4.6-4
PROPOSED PROJECT OPERATIONAL ANNUAL GHG EMISSIONS

Emission Source	Annual Emissions (metric tons/year)			
	CO_2	**CH_4**	**N_2O**	**CO_2 Equivalents**
Proposed Project				
Area Source	39	0.01	0.00	39
Energy Use	1,902	0.07	0.02	1,911
Mobile	4,567	0.16	0.00	4,571
Solid Waste Management	26	1.53	0.00	58
Water Consumption	75	1.00	0.02	103
OPERATIONAL TOTAL (metric tons)	**6,608**	**2.77**	**0.05**	**6,682**
Projected Service Population	1,684			
NET INCREASE PER SERVICE POPULATION	**4.0 MT CO_2e/SP/yr**			
Significance Threshold	4.6 MT CO_2e/SP/yr			
Significant Impact?	***No***			

Source: CalEEMod. See Appendix A in SEIR Appendix D for model results.
Note: Service population = residents + employees

Consistency with Local Plans Adopted for the Purpose of Reducing GHG Emissions

As discussed above, the City has adopted a CAP for reducing GHG emissions. This plan establishes reduction goals and provides actions that the City, residents, and businesses can take to reduce emissions. The project design features listed above would be consistent with the policies included in the 2013 General Plan (2013a). These General Plan policies include:

Action CS-3.E *Water Efficient Landscaping*. Continue to implement the City's Bay Friendly Landscaping Guidelines for water-efficient landscaping, including low water use plants and more efficient irrigation systems. Adopt more stringent outdoor water use policies for individual development proposals where feasible.

Policy CS-5.1 Linking Land Use and Transportation. Encourage land use and transportation patterns that reduce dependence on automobiles. This includes siting well-designed higher-density, mixed-use development near the proposed Dumbarton Rail station and in other areas with frequent transit service.

Policy CS-5.2 Pedestrian and Bicycle Friendly Design. Ensure that new development is planned and designed to facilitate walking and bicycling as well as driving. This can potentially reduce the number of vehicle trips and related GHG emissions.

Policy CS-6.2 Encouraging Greener Construction. Encourage greener construction methods and greater use of recycled-content materials in new residential, commercial, and industrial construction projects in accordance to the latest CALGreen building standards.

Policy CS-7.1 Reducing Energy Use. Support measures to reduce energy consumption and increase energy efficiency in residential, commercial, industrial, and public buildings.

Policy CS-7.2 Renewable Energy Sources. Support the expanded use of renewable energy sources such as wind and solar by Newark residents and businesses, the City of Newark, and other government agencies.

Policy CS-7.3 Designing for Energy Efficiency. Support building design, site planning, and subdivision design methods that reduce heating and cooling costs and achieve greater energy efficiency.

Policy CS-7.5 Solar Access. Preserve solar access rights in a way that is consistent with state law, encourages the use of photovoltaic energy systems in new construction and rehabilitation projects, and balances parallel objectives to expand the urban forest and protect local trees.

As a TOD, the Gateway Station West Project would also be consistent with several Action Items listed in the City's CAP; namely, the proposed project's green principles and regional smart

growth planning efforts it would achieve (i.e., higher density residential units near the transit station). The project would include the installation of energy- and water-efficient systems. Furthermore, the project would be consistent with the Action Items within the CAP and would also reduce its GHG emissions in the region. The project is consistent with the goals and strategies of local and state plans, policies, and regulations aimed at reducing GHG emissions from land use and development. Therefore, impacts would be less than significant.

4.6.4 Level of Significance Before Mitigation

Project-specific analysis of GHG emissions demonstrated that the implementation of project-design features consistent with the GHG mitigation measure outlined in the Dumbarton TOD Specific Plan EIR and as described in Section 4.6.3 would increase energy efficiency, reduce area source pollutants, and reduce the operational GHG emissions; the project would not result in a significant impact with respect to GHG emissions.

4.6.5 Mitigation Measures

Relevant Mitigation Measures from the Dumbarton TOD Specific Plan EIR

As noted above, MM 4.6-1 was identified in the Specific Plan EIR to address GHG-related emissions. Each line item bulleted in that measure has been incorporated into proposed project design and no significant impacts are identified in the project-level analysis of GHG emissions. Therefore, no additional measures are required.

4.6.6 Level of Significance After Mitigation

With the inclusion of project design features consistent with Dumbarton TOD Specific Plan EIR MM 4.6-1, as expanded for the proposed project, impacts related to emissions of GHG were assessed as less than significant, and no mitigation was required.

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4.7 HAZARDS AND HAZARDOUS MATERIALS

This section evaluates the potential presence of hazards and hazardous materials within the site and applicable off-site areas, identifies pertinent regulatory/industry standards, and evaluates potential impacts and associated mitigation measures related to project implementation. A number of previous technical analyses have been completed to document and evaluate hazardous material activities and associated potential contamination in the project site and vicinity, as described in Section 4.7, *Hazards and Hazardous Materials*, of the Dumbarton TOD Specific Plan EIR (RBF 2011). In addition, two current analyses have been prepared to address related potential issues for the proposed project site, including: (1) ASTM Phase I Environmental Site Assessment, Cargill Property (Phase I ESA, Haley & Aldrich, [H&A] 2014a): and (2) Phase II Investigation Report, Gateway Station West (H&A 2014b). These analyses are summarized below, along with information from other applicable sources including the referenced Specific Plan EIR and the City of Newark (City) General Plan (2013a). The complete Phase I and Phase II reports are contained in Appendix H to this SEIR.

4.7.1 Environmental Setting

The Dumbarton TOD Specific Plan area is known to contain hazardous materials releases from past industrial uses. Several actions have been undertaken within the Specific Plan area requiring soil remediation and groundwater remediation, in accordance with cleanup programs approved by the San Francisco Bay Regional Water Quality Control Board (RWQCB) and California Department of Toxic Substances Control (DTSC). Detailed descriptions of the past contamination and clean up actions are provided in the Dumbarton TOD Specific Plan EIR, as well as the referenced project-specific Phase I and Phase II reports. The following discussion is focused on the site-specific hazards and hazardous materials located on the Gateway Station West site.

Phase I Environmental Site Assessment

A Phase I ESA was conducted for the proposed project and encompassed the entire project site and applicable off-site areas. The primary purpose of the Phase I ESA was to identify "Recognized Environmental Conditions" (RECs) to the extent feasible, based on the following definition from ASTM International (ASTM, formerly the American Society for Testing and Materials) Standard E 1527-13, *Standard Practice for Environmental Assessments*:

> Recognized Environmental Conditions means the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater or surface water on the property.

Specifically, the Phase I ESA involved a records review, site reconnaissance, review of previous reports and other materials related to the site and vicinity (e.g., cleanup orders and related compliance documentation, topographic maps and aerial photos), interviews with individuals familiar with the site history and conditions, and government contacts. The methodology used to

prepare the assessment is outlined below, followed by a summary of the Phase I ESA investigation results.

Records Review

A database search was conducted for the entire project site and vicinity to obtain and evaluate documented records related to RECs from applicable sources. The electronic database service, Environmental Data Resources, Inc., (EDR), was used to complete the environmental records review. Numerous regulatory databases were searched during the Phase I ESA research, including the Orphan Site List, which includes properties that cannot be mapped due to incomplete or incorrect address information. Each database reviewed is described in the EDR report included as Appendix C of the Phase I ESA. The database search was used to identify properties that may be listed in federal, state and local listings. The database search was used to identify listed properties within the approximate minimum search distances specified by ASTM, as summarized below in Table 4.7-1, *Environmental Records Review Database Search*.

Table 4.7-1
ENVIRONMENTAL RECORDS REVIEW DATABASE SEARCH

Database Searched[1]	Approximate Minimum Search Distance	Project Site Listed?	Number of Facilities within Search Distance
NPL Sites	1 mile	No	-
Delisted NPL Sites	0.5 mile	No	-
CERCLIS Sites	0.5 mile	No	-
CERCLIS-NFRAP Sites	0.5 mile	No	6
Federal ERNS Site	Site only	No	-
RCRA non-CORRACTS TSD Facilities	0.5 mile	No	-
RCRA CORRACTS TSD Facilities	1 mile	No	4
RCRA Generators	Site and Adjoining	No	3
RCRA –Non Generators	Site and Adjoining	No	-
Federal Institutional Controls/ Engineering Controls	Site Only	No	-
US Brownfield	0.5 mile	No	-
State and Tribal Equivalent NPL Sites (CA RESPONSE)	1 mile	Yes	3
State and Tribal Equivalent CERCLIS Sites ENVIROSTOR	1 mile	Yes	9
State and Tribal Registered Storage Tanks	Site and Adjoining	No	-
State FID Underground Storage Tank	Site and Adjoining	No	-
SWEEPS Underground Storage Tank	Site and Adjoining	No	-
Historical UST Registrations (HIST UST)	Site and Adjoining	No	2
Aboveground Storage Tank (AST)	Site and Adjoining	No	-

Table 4.7-1 (cont.)
ENVIRONMENTAL RECORDS REVIEW DATABASE SEARCH

Database Searched[1]	Approximate Minimum Search Distance	Project Site Listed?	Number of Facilities within Search Distance
HAZNET	Site Only	No	-
State and Tribal Landfills and Solid Waste Disposal Sites (WMUDS/SWAT)	0.5 mile	No	2
State and Tribal Leaking Storage Tanks (LUST)	0.5 mile	No	5
State and Tribal Institutional Controls/Engineering Controls	Site only	No	-
State and Tribal Voluntary Cleanup Sites	0.5 mile	No	-
State and Tribal Brownfield Sites	0.5 mile	No	-
State Spills, Leaks, Investigation and Cleanup (SLIC)	0.5 mile	No	19
Recycling Facilities in California (SWRCY)	0.25 mile	No	-
State CORTESE	0.5 mile	No	4
National Pollutant Discharge Elimination System (NPDES)	Site Only	No	-
State Dry Cleaner Facilities	0.25 mile	No	-
State California Hazardous Materials Incident Report System (CHMIRS)	Site Only	No	-
State No Further Action Determination (NFA)	0.25 mile	No	-
State – Unconfirmed Properties Referred to Another Agency (REF)	0.25 mile	No	-
State – School Property Evaluation Program (SCH)	0.25 mile	No	-
State – Properties Needing Further Evaluation (NFE)	0.25 mile	No	-
HIST CAL-SITES	1 mile	No	-
TOXIC PITS	1 mile	No	1
Consent	1 mile	No	-
HAZNET	Site Only	No	-
EMI	Site Only	No	-
DEED	0.5 mile	No	1
Notify 65	1 mile	No	-

Source: H&A 2014a

[1] Additional database description is provided in Section 5.1 of the Phase I ESA provided in Appendix H of this SEIR.

Previous Record/Other Material Review

As noted above, a number of prior studies have been prepared regarding hazardous materials issues within the site and vicinity, including Phase I and Phase II studies, regulatory cleanup and

abatement orders, monitoring and testing reports, and other related technical and environmental analyses. Detailed descriptions of these materials are provided in the Phase I ESA and Section 4.7 of the Dumbarton TOD Specific Plan EIR. Applicable information from the noted documentation, along with data from other pertinent sources such as historic maps and aerial photographs, was included in the Phase I ESA to provide appropriate background descriptions, site and vicinity history, the presence and nature of RECs, regulatory requirements, and the current status of applicable cleanup and abatement efforts.

Site Reconnaissance

A reconnaissance to observe site conditions was conducted by H&A personnel on October 8, 2013. Conditions on the site and surrounding properties were observed and documented, with the associated photographs included as Appendix D to the Phase 1 ESA. At the time of the site reconnaissance, access to the project site was unobstructed and, with the exception of two locked storage containers located at the City Police Department's Pistol Range, access was available to all areas of the project site. Conditions on adjoining properties were observed from the project site boundaries and nearby public roadways.. No weather-related conditions or other conditions that would have limited the ability to observe the site or adjoining properties occurred during the reconnaissance.

Interviews

Personal interviews were conducted with representatives of Cargill Inc., the Witmer-Tyson Police Dog Training School and the City Police Department. As indicated above for review of previous materials, applicable information regarding site conditions, history, etc., obtained from interviews was incorporated into the Phase I ESA.

Government Contacts

The project site does not currently have a street address, which limited the number of potential agency contacts to obtain pertinent records (i.e., most agencies require a street address to access such records). Accordingly, agency contacts beyond those involving database listings (e.g., the State Water Resources Control Board [SWRCB] GeoTracker [CORTESE] and DTSC ENVIROSTOR lists, refer to Table 4.8-1), were limited to the Alameda County (County) Assessor's Office (for assessor parcel information) and the City Building & Safety/Planning Department (for zoning data).

Summary of Phase I ESA Investigations

Known or Suspected RECs

The project Phase I ESA identified evidence of nine RECs in connection with the project site based on historic use of the property and its surroundings. A summary of the RECs is provided below.

REC No. 1 – Former Magnesia Waste Pile. A former magnesia (magnesium oxide) waste pile is located in the northwestern portion of the project site (referred to as the North Hill in the project geotechnical investigations and Section 4.5, *Geology and Soils*, of this SEIR).

Remediation work performed in 1991 focused on removal of waste materials classified as hazardous waste (i.e., containing contaminant concentrations that exceeded total threshold limit concentrations [TTLCs]), with additional non-hazardous waste material removed in 1998 and 1999. During the prior remediation work, residential use of the site was not anticipated and was apparently not considered when establishing site cleanup goals. Analyses of verification soil samples collected following both removal actions, however, generally did not detect copper, mercury or thallium (the primary contaminants) above current residential screening levels (California Human Health Screening Levels [CHHSLs], H&A 2014a). Some residual waste material that is generally white in color remains at the project site, primarily on the northwestern portion of the property in the vicinity of the former magnesia waste pile. The material reportedly is alkaline (high pH), which can cause irritation to human tissue. The DTSC noted that some of the materials have a pH comparable to laundry soap (H&A 2014a). Based on the described conditions, this site was subject to further testing and evaluation as part of the project Phase II ESA, with the results discussed below.

REC No. 2 – Impacted Groundwater. The northeastern portion of the project site is undeveloped, but includes four groundwater monitoring wells associated with off-site remediation efforts (Well Nos. W-25, B-26, B-27 and B- 28). Specifically, these wells are part of a groundwater monitoring network that originally included 30 monitoring wells used to assess the off-site (and hydrologically down-gradient) groundwater impacts from the Ashland Chemical Company property (located adjacent to the northeastern project site corner). Access to these groundwater monitoring wells for sampling/monitoring is provided through an Access Agreement included in the RWQCB Site Cleanup Requirements (SCR) under Order No. 89-109 (as amended). Currently, only Well Nos. B- 26, B-27 and B-28 are required to be sampled under the revised SCR (Order R2-2005-003)8, which was adopted by the RWQCB on September 14, 2005.

Former investigations of groundwater beneath the project site indicate that the regional plume of volatile organic compounds (VOCs), predominantly 1,2-dichloroethane (1,2-DCA), has encroached onto the northern portion of the property from the Ashland Chemical Company property (as noted above). Total petroleum hydrocarbon (TPH) compounds occurring as gasoline, diesel and motor oil (TPHg, TPHd, TPHmo), as well as benzene, were also detected in groundwater near the former magnesia waste pile (or North Hill) location, although the specific source of these compounds is not known. That is, based on the review of the EDR database report, there are multiple facilities located adjacent to (and hydrologically up-gradient of) the project site that are listed in environmental databases as having known releases that have impacted groundwater. These facilities and the associated groundwater impacts have been, or are currently being, investigated under the oversight of the lead regulatory agencies (including the RWQCB, DTSC and County Water Agency [ACWD]). Based on the described conditions, the northern portion of the site was subject to further testing and evaluation as part of the project Phase II ESA, with the results discussed below.

REC No. 3 –Former Bittern Truck Loading Area. The southwestern corner of the project site was used as a bittern loading area until late 2011 or early 2012 (with bittern consisting of the concentrated brine resulting from evaporative salt production). Historical observations of this portion of the site indicated spilled bittern on the gravel surface at the truck loading area. Bittern reportedly contains residual sodium chloride, as well as various other salts including magnesium

sulfate, magnesium chloride, potassium chloride and magnesium bromide. It is reportedly non-hazardous, but may result in elevated salt levels in soil or groundwater. Thus, bittern impacted soil may require special handling or disposal if this area is redeveloped. Additionally, oil reportedly was discharged to overflow ponds at the truck loading area. One lined overflow pond and one unlined overflow pond have historically been located on this portion of the site, although evidence of the ponds and soil staining was not observed during the Phase I site reconnaissance.

REC No. 4 – Former Newark Sportsman's Club (NSC) Area. The former NSC area includes approximately 18 acres located in the southeastern portion of the project site. Remedial activities conducted in 2002 and 2003 identified soil impacted with residual lead and polycyclic aromatic hydrocarbons (PAH) from clay pigeon debris. Soils exceeding the established cleanup criteria were removed from the NSC area in 2002. Specifically, the cleanup criteria for lead were set at the then current residential Preliminary Remediation Goal (PRG) of 400 milligram per kilogram (mg/kg). The cleanup goal used for PAHs was a total PAH concentration of 10 mg/kg. CalEPA recently revised their screening level for lead, with revised residential CHHSL levels of 80 mg/kg for lead (H&A 2014a). The average lead level detected in verification soil samples does not exceed the current CHHSL of 80 mg/kg, although lead concentrations in some of the individual samples were above this level. Additionally, some of the individual PAH concentrations detected in verification soil samples were above the current Environmental Screening Levels (ESLs) established by the RWQCB (H&A 2014a). Portions of the former NSC site are currently used by the Witmer-Tyson Police Dog Training School and the Menlo Park Schutzhund Club (both dog training operations), with a septic tank present on the north side of the dog training clubhouse (H&A 2014a). Based on the described conditions, this site was subject to further testing and evaluation as part of the project Phase II ESA, with the results discussed below.

REC No. 5 – Pistol Range. The City of Newark Police Department has used a portion of the southeastern project site since 1975 as a pistol firing range. Lead and copper were detected in soil from the pistol range area at up to 11,000 mg/kg and 270 mg/kg, respectively. The lead concentrations exceed both the residential CHHSL (80 mg/kg) and the TTLC (1,000 mg/kg), with materials exhibiting concentrations above the TTLC classified as hazardous waste. Based on the described conditions, this site was subject to further testing and evaluation as part of the project Phase II ESA, with the results discussed below.

REC No. 6 – Naturally Occurring Asbestos (NOA). Serpentinite that contains NOA was identified within the southern area of exposed bedrock (near the pistol range), identified as the South Hill in the project geotechnical investigations and Section 4.5 of this SEIR. Analyses of samples collected from the southern hill area detected NOA at concentrations ranging from 0.25 to 6.25 percent.

REC No. 7 – E-1 Drainage Ditch. The E-1 Ditch bisects the site from the north-central property line to the southwestern corner. The E-1 Ditch extends off site to the north onto the adjacent FMC property and was used for various discharges from associated activities. Although current water quality in the E-1 Ditch is not likely to be impacted by historic discharges, sediment within the E-1 Ditch could contain residual contaminants. Based on the described conditions, this site was subject to further testing and evaluation as part of the project Phase II ESA, with the results discussed below.

REC No. 8 – Settling Ponds and Detention Basin. During the period of the late 1930s to the 1960s, portions of the northwestern site area (west of the E-1 Ditch) were used as settling ponds for magnesium sulfate (H&A 2014a). The described settling ponds have also been identified as evaporation ponds related to salt production, although site-specific investigation, including a related interview with industry representatives, has confirmed that these facilities were actually used as settling ponds for magnesium sulfate (H&A 2014a). Additionally, what appears to be a detention basin is apparent on aerial photographs dating from the late 1930s through the late 1950s. This potential detention basin was located where the E-1 Ditch intersects with the adjacent FMC property along the northern property line, with these facilities used for various discharges from the FMC site. Based on the described conditions, the settling ponds and detention basin were subject to further testing and evaluation as part of the project Phase II ESA, with the results discussed below.

REC No. 9 – Historical Industrial Use. Based on the long industrial history of the project site, previously unidentified buried structures, debris or impacted soil may be encountered during site development activities. Depending on the nature and extent of such potential occurrences, associated materials could require special handling and disposal.

Historical RECs

The ASTM E 1527-13 Standard defines a Historical REC (HREC) as an environmental condition involving "…past releases that do not subject the property to any use restrictions, activity and use limitations (AULs), or other engineering or institutional controls." The noted standard also requires an evaluation of whether past releases that were previously addressed may be subject to revised cleanup criteria that could require further remedial action (e.g., if residential criteria have become more restrictive, the HREC could potentially become an REC). Pursuant to these criteria, the Phase I ESA investigation did not identify any evidence of HRECs on the proposed project site (H&A 2014a, 2015).

<u>De Minimis Conditions</u>

The ASTM E 1527-13 Standard defines *de minimis* as "A condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies." Conditions determined to be de minimis conditions are not recognized environmental conditions or controlled recognized environmental conditions." The project Phase I ESA revealed evidence of a *de minimis* condition related to stained soil observed on the northwestern portion of the project site, in an area used to store construction equipment and materials. The stained soil appears to be the result of leaking motor oil or hydraulic fluid from construction equipment. Due to the heavy nature of motor oil and hydraulic fluid, the impact to the soil caused by this release is likely surficial and is considered a *de minimis* condition.

<u>Conclusions of Phase I ESA</u>

Based on the above-described evaluations, the project Phase I ESA concluded: (1) there are nine observed or recognized RECs on the project site; (2) no evidence of HRECs was observed on site during the investigation; and (3) evidence of a *de minimis* condition was identified in relation to

stained soil observed on the project site (H&A 2014a, 2015). As outlined above and described in Section 4.7.1.2, six of the identified on-site RECs were recommended for additional (Phase II) investigation.

Phase II Environmental Site Assessment

Subsequent to the Phase I ESA (and based on associated recommendations), a Phase II ESA was conducted to assess potential hazards associated with six of the nine RECs listed above that were recommended for additional investigation (i.e., REC Nos. 1 [former magnesia pile], 2 [impacted groundwater], 4 [NSC area], 5 [pistol range], 7 [E-1 ditch] and 8 [ponds/basin]) (H&A 2014b in SEIR Appendix H).

Field Investigations

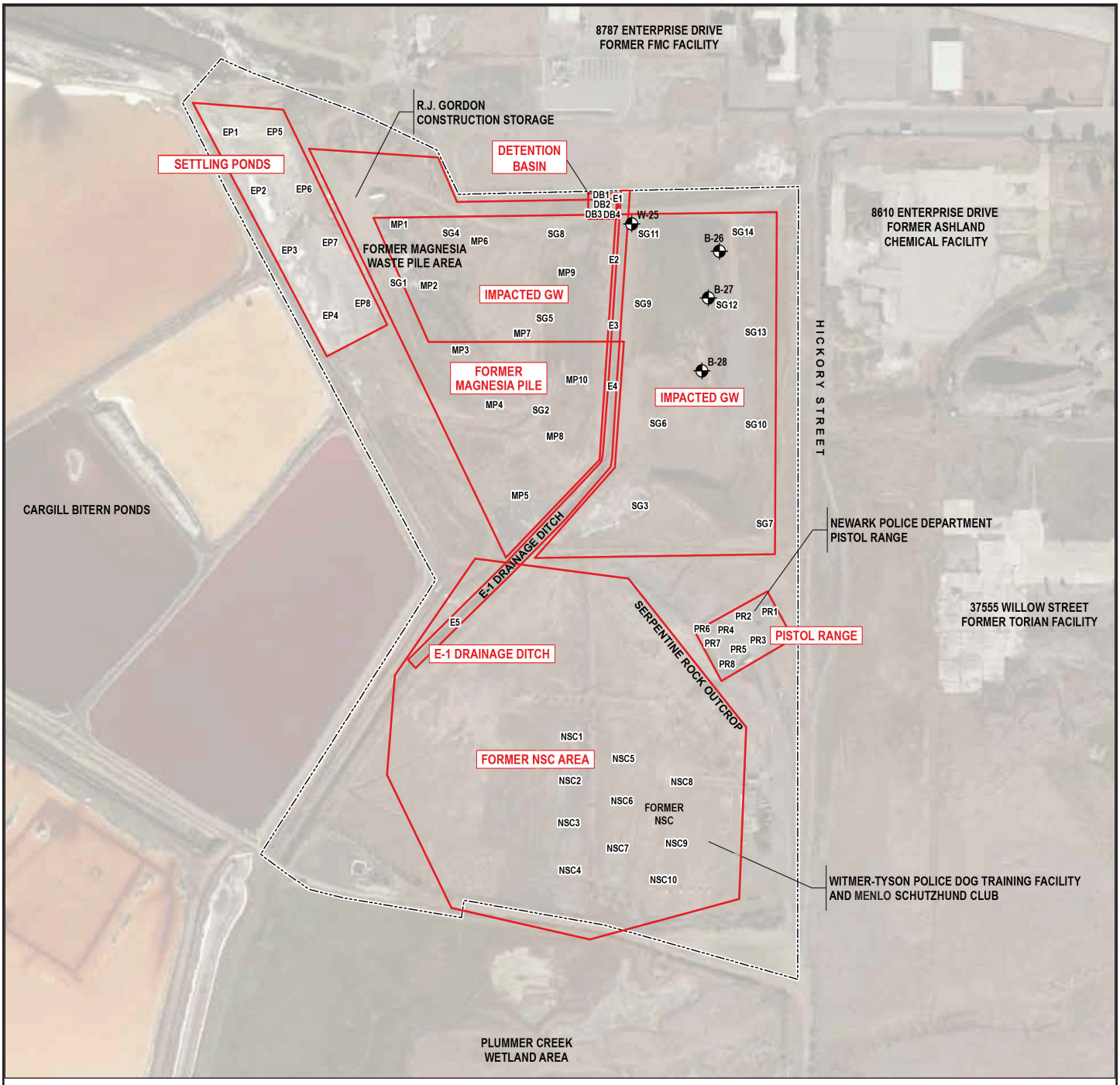
Phase II soil and soil gas investigations were conducted during the period of October 2 through 17, 2014 at the six on-site RECs identified for additional investigation in the Phase I study. Based on the Phase I ESA results and recommendations, no additional investigation was conducted for REC Nos. 3 (former bittern loading area), 6 (NOA) and 9 (Historical Industrial Use). Phase II testing was not proposed at these three sites based on the following considerations: (1) REC No. 3 is not located within an area proposed for development under the proposed project; (2) REC No. 6 includes a relatively confined area of known NOA occurrence; and (3) REC No. 9 involves the potential for occurrence of currently unknown contaminants within the project site. The general locations of the Phase II sampling efforts are depicted on Figure 4.7-1, *Phase II ESA Sampling Map*, relative to the associated RECs, the project site as a whole, and adjacent properties. Specific sampling methods included boring to approximate depths of five feet by hand augering, and direct-push (truck-mounted) drilling for deeper borings. For soil gas samples (REC No. 2), soil gas probes were inserted into the associated borings to collect gas samples per applicable DTSC guidance. Field screening for VOCs was conducted on all samples using a photoionization detector (PID), and all sample areas were observed for conditions such as odors and soil staining that could be indicative of contamination. No VOCs were detected during PID field screening, and no odors or soil staining were observed at any of the subject sites during Phase II testing (H&A 2014b).

All soil and soil gas samples were collected and stored pursuant to applicable regulatory/industry protocols, and transported to a California-certified laboratory following standard chain-of-custody procedures. Additional information regarding sampling and testing methodology is provided in Section 3.0 of the Phase II ESA, with analytical laboratory testing results summarized below.

Analytical Results

The results of laboratory analyses conducted for the six RECs sampled during the Phase II ESA are summarized below. Additional detail is provided in the Phase II ESA, with the complete laboratory testing results included in Tables I through VIII of the Phase II report.

REC No. 1 – Former Magnesia Pile. Thirty-three soil samples were collected from 10 locations in the former magnesia pile area and analyzed for Title 22 metals and pH. With the exception of selenium and thallium, all tested metals were detected in at least one sample. Arsenic was



LEGEND

SG#	SOIL GAS SAMPLING LOCATION	DB#	SOIL SAMPLING LOCATION IN FORMER DETENTION BASIN
MP#	SOIL SAMPLING LOCATION IN FORMER MAGNESIA WASTE PILE	EP#	SOIL SAMPLING LOCATION IN EVAPORATION POND
NSC#	SOIL SAMPLING LOCATION IN FORMER NEWARK SPORTSMAN'S CLUB	⊕	GROUNDWATER MONITORING WELL
PR#	SOIL SAMPLING LOCATION IN EXISTING PISTOL RANGE	▭	APPROXIMATE AREA OF RECOGNIZED ENVIRONMENTAL CONDITION
E#	SOIL SAMPLING LOCATION ALONG THE E-1 DITCH	▭	SITE BOUNDARY

N W E S

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Source: Haley & Aldrich 2014; Revised 2015

Phase II ESA Sampling Map

GATEWAY STATION WEST

HELIX Environmental Planning

Figure 4.7-1

detected at a concentration exceeding the background concentration at one location (MP6), although the Phase II ESA notes that: "…concentrations of arsenic in soil appear consistent with background concentrations." Cobalt exceeded the screening levels in four samples collected from two borings (MP3 and MP4), while observed pH levels for all soil samples collected in this area ranged from 7.12 to 8.67. While there is no specific screening standard for pH levels, the San Francisco Bay RWQCB Basin Plan includes a water quality objective requiring that: "…pH shall not be depressed below 6.5 nor raised above 8.5…Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels…" (RWQCB 2011, as amended).

REC No. 2 – Impacted Groundwater. Fourteen soil gas samples (including two duplicate samples) were collected from 12 locations to assess the potential for soil gas that may be associated with impacted groundwater from up-gradient (off-site) sources. Samples were analyzed for VOCs and while several VOCs were detected in multiple samples, none of the observed concentrations exceeded associated RWQCB residential screening levels.

REC No. 4 – Former Newark Sportsman's Club (NSC) Area. Twenty-five soil samples were collected from 10 locations in the Former NSC Area. These samples were analyzed for Title 22 metals and PAHs, with arsenic, lead and PAHs detected at concentrations exceeding the screening or background concentrations in multiple samples. Specifically: (1) arsenic was detected at concentrations above the background level in one sample from boring NSC5; (2) lead was detected at concentrations above the screening levels in three samples from borings NSC5, NSC8 and NSC9; and (3) a number of PAHs were detected at concentrations exceeding screening levels in multiple samples from borings NSC5 through NSC9

REC No. 5 – Pistol Range. Eleven soil samples were collected from six locations in the Pistol Range, with these samples analyzed for Title 22 metals. Cobalt was detected at concentrations exceeding the screening levels in five samples collected from three locations (PR4, PR5 and PR8).

REC No. 7 – E-1 Drainage Ditch. Ten soil samples were collected from five locations in the E-1 drainage ditch, and analyzed for Title 22 metals, VOCs, semi-volatile organic compounds (SVOCs), PAHs, TPH compounds (including TPHd and TPHmo), and pH. The testing results indicated: (1) arsenic was detected at concentrations exceeding the background level in samples collected from three borings (E3 through E5); (2) lead was detected at concentrations exceeding screening levels in samples collected from two borings (E3 and E4); (3) PAH compounds were detected at concentrations exceeding screening levels in samples from four borings (E2 through E5); (4) TPHd and TPHmo were detected at concentrations exceeding screening levels in samples from two borings (E3 and E4), with TPHd concentrations above the screening level also observed in samples collected from two additional borings (E2 and E5); (5) VOCs and SVOCs were not detected at concentrations above associated screening levels; and (6) pH levels for all soil samples collected in this area ranged from 6.96 to 8.66.

REC No. 8 –Settling Ponds and Detention Basin. Sixteen soil samples were collected from eight locations in the settling pond area, with these samples analyzed for Title 22 metals and pH. Metals were not detected at concentrations exceeding screening levels, and the pH of the soil samples collected in this area ranged from 7.3 to 9.51.

Twelve soil samples were collected from four locations in the detention basin area, and were analyzed for Title 22 metals, SVOCs, PAHs, TPH compounds (TPHg, TPHd and TPHmo), and pH. The test results indicated: (1) cobalt was detected at concentrations exceeding screening levels in two samples collected from DB1 and DB3; (2) TPHd was detected at a concentration above the screening level in one sample from DB2; (3) SVOCs, PAHs, TPHg and TPHmo were not detected at concentrations exceeding associated screening levels; and (4) the pH all soil samples collected in the detention basin area ranged from 7.81 to 8.67.

Off-site Hazardous Material Sources

In addition to the adjacent off-site areas evaluated for hazardous material use/release in the project Phase I and II analyses, a number of facilities currently using/storing hazardous materials are located within approximately 1.5 miles of the eastern site boundary. Specifically, based on an analysis conducted for the proposed Trumark project (David J. Powers and Associates, Inc., [DJP] 2013), the following two facilities were identified for further evaluation and accidental release modeling: (1) Matheson Tri-Gas, located at 6925 Central Avenue (approximately 1.3 miles east of the site); and (2) the ACWD Desalination Plant, located near the southern terminus of Redeker Place (approximately 1.4 miles east of the site). Both of these facilities are regulated by the Alameda County Department of Environmental Health (DEH) under the California Accidental Release Program (CalARP). The modeling results indicated that chemicals used and stored at the ACWD Desalination Plant (including ammonium hydroxide) would not reach the Trumark site in the event of an accidental release (DJP 2013), with the Gateway Station West site located west of Trumark and therefore farther from the ACWD plant. Modeling conducted for chemical use/storage at the Matheson Tri-Gas facility (including ammonia, chlorine, nitrogen dioxide, and boron trichloride) identified the potential for chemicals to reach the Trumark site (and the Gateway Station West property) during an accidental release (DJP 2013). Potential impacts to the proposed project associated with this modeling scenario are described below.

4.7.2 Regulatory Setting

The proposed project is subject to a number of regulatory requirements related to hazards and hazardous materials under federal, state and local guidelines. These requirements are described in the Dumbarton TOD Specific Plan EIR (RBF 2011), with a summary listing of related federal, state and local regulatory agencies/requirements provided in Table 4.7-1 of the Specific Plan EIR. The principal agencies and related requirements associated with hazards and hazardous materials for the proposed project are outlined below.

Federal

U.S. Environmental Protection Agency

The USEPA is responsible for researching and setting national standards for a variety of environmental programs, and it delegates responsibility for applicable permit issuance, monitoring and compliance/enforcement efforts to states and Native American tribes. Specific federal legal and regulatory standards administered by the USEPA include: the Clean Water Act; Clean Air Act; Toxic Substance Control Act; Resource Conservation and Recovery Act (RCRA);

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA); Superfund Amendments and Reauthorization Act (SARA); and Federal Insecticide, Fungicide and Rodenticide Act.

Other Federal Agencies

Other federal agencies that regulate hazardous materials include the Occupational Safety and Health Administration (OSHA), the U.S. Department of Transportation (DOT) and the National Institute of Health (NIH).

State

The management of hazardous materials and waste within the State of California is primarily under the jurisdiction of the California Environmental Protection Agency (CalEPA) and the DTSC. The Cal EPA was created by the State of California to establish a cabinet level voice for the protection of human health and the environment and to assure the coordinated deployment of State resources. The DTSC regulates hazardous waste, cleanup of existing contamination and emergency planning, and also identifies alternatives to reduce the hazardous waste produced in California. Additionally, the SWRCB and the nine RWQCBs regulate water quality within the State, including contamination of State waters as a result of hazardous materials and/or waste.

California Environmental Protection Agency

The Cal/EPA and SWRCB establish rules governing the use of hazardous materials and the management of hazardous waste. Applicable State and local laws include the Hazardous Waste Control Law (HWCL); Hazardous Substances Information and Training Act; Underground Storage of Hazardous Substances Act; and public safety, fire regulations, and building codes.

Department of Toxic Substances Control

Within Cal/EPA, the DTSC has the primary regulatory responsibility for hazardous wastes/materials. The DTSC delegates associated enforcement authority to local jurisdictions that enter into agreements with the DTSC, for the management of hazardous materials and the generation, transport, and disposal of hazardous waste under the HWCL.

SWRCB and RWQCBs

As noted above, the SWRCB and RWQCBs regulate water quality in relation to issues including hazardous materials and/or waste. This process includes the issuance of abatement and/or clean up orders, with a number of such requirements associated with industrial activities on the project site and adjacent properties.

Local

Alameda County Department of Environmental Health (DEH)

The Hazardous Materials/Waste Program for waste generation was established by the County Board of Supervisors in 1985, and is recognized by DTSC through a Memorandum of

Understanding. The County DEH Hazardous Materials/Waste Program has jurisdiction over a number of local municipalities, including the City of Newark.

The County DEH Certified Unified Program Agency (CUPA) is the administrative body that coordinates and enforces numerous local, State, and federal hazardous materials management and environmental protection programs within the County. Specifically, these include: the Hazardous Materials Business Plan Program; Hazardous Waste Generator Program; Underground Storage Tank Program; California Accidental Release Program; Tiered Permitting Program; and Aboveground Storage Tank Program. Alameda County Water District Groundwater Protection Act

The ACWD regulates groundwater extraction/disposal (dewatering) activities, including the protection of existing wells, through the ACWD Groundwater Protection Act (Ordinance No. 2010-01, Resolution No. 10-066). Specifically, all applicable activities described in the Act are required to obtain a permit from the ACWD prior to the start of associated work, and to comply with all related conditions to protect groundwater resources and wells.

City General Plan

The City General Plan Environmental Hazards Element encompasses a number of policies related to hazards and hazardous materials that are applicable to the proposed project, including efforts to reduce/address associated risks through source reduction/recycling, education/training, and transportation controls. Related action items identified in the Environmental Hazards Element include requirements for applicable inventory and inspection, CUPA coordination, zoning restrictions, proper design/testing for storage facilities, identification of designated transport routes, provision of household hazardous waste disposal opportunities/events, and completion of appropriate ESA investigations for applicable property use changes (e.g., industrial to residential (City 2013a).

4.7.3 Environmental Analysis

Significance Thresholds

The following significance thresholds derived from the Dumbarton TOD Specific Plan EIR and Appendix G of the State CEQA Guidelines are used in the evaluation of potential impacts from implementation of the proposed project. These thresholds are intended to ensure conformance with existing regulatory requirements related to applicable hazard and hazardous material issues.

The proposed project would have a significant impact related to hydrology/water quality if it would:

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

- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within on-quarter mile of an existing or proposed school.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Based on analysis in the Dumbarton TOD Specific Plan EIR, no impacts associated with the following thresholds were identified for the Specific Plan (including the proposed project site), and no further related analysis is provided below:

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

Specifically, these thresholds are not applicable to the proposed project based on the following considerations outlined in the Dumbarton TOD EIR and General Plan EIR: (1) because there are no public use airports within the Specific Plan area (with the nearest airports all located at distances greater than two miles away), the project would not be subjected to air safety hazards from aircraft operations; (2) there are no private use airports that would affect the project; and (3) the Dumbarton Specific Plan area (including the proposed project site) is identified as a low risk area for wildfire in the City General Plan Environmental Hazards Element, and is not within a State High Fire Severity Area (SRA) or a Local Very High Severity Area (LRA), as designated by the California Department of Forestry and Fire Protection (Cal Fire, City 2013a).

Summary of Findings from the Dumbarton TOD Specific Plan EIR

The Dumbarton TOD Specific Plan EIR assessed the potential occurrence of hazards and hazardous materials within the Dumbarton TOD Specific Plan area (including the proposed project site), and analyzed the risks associated with implementing the proposed development and associated human activities. The Hazards and Hazardous Materials analysis for the Specific Plan area is discussed in Section 4.7 of the Dumbarton TOD Specific Plan EIR (RBF 2011), and utilized information obtained from government databases, the City General Plan, and various documents prepared for past industrial sites that used hazardous materials within the Specific Plan area (including technical investigations, regulatory clean up/abatement orders, and associated monitoring/reporting data).

The Specific Plan EIR concluded that the public and/or environment could be exposed to hazardous materials during construction and operation of future development allowed by the Specific Plan, for reasons including the fact that some sites within the Specific Plan area are on a list of hazardous materials sites compiled pursuant to government code section 65962.5. As described above in this section, project-specific Phase I and Phase II ESAs that consider the previous analyses conducted for the overall Specific Plan area have been prepared for the proposed project, pursuant to associated requirements in the Specific Plan EIR (RBF 2011; H&A 2014a and 2014b).

It should also be noted that, in response to public review comments, the Dumbarton TOD Specific Plan Final EIR included mitigation requirements regarding: (1) the protection of existing groundwater wells from development; and (2) potential effects to groundwater resources from construction-related operations such as soil improvements or installation of subdrains related to liquefaction (refer to Section 4.5) or dewatering activities. The mitigation requirement for well protection is addressed below due to the relationship between the on-site groundwater monitoring wells and off-site hazardous material remediation efforts, while the groundwater resource protection requirement is evaluated in Section 4.8, *Hydrology/Water Quality*.

The Specific Plan Final EIR also includes several modifications to MM 4.7-1a related to the nature and extent of hazardous material investigations required for Specific Plan implementation. These updated requirements are addressed in the following impact and mitigation analyses for the proposed project, with applicable mitigation measures from the Specific Plan EIR (as well as project-specific mitigation) identified below in Section 4.7.4.

Impact Analysis

Routine Transport, Use, or Disposal of Hazardous Materials

Implementation of the proposed project could result in the transport, use and disposal of hazardous materials during construction and/or remediation activities. Specifically, project construction would involve the transport and use of related hazardous materials such as vehicle fuels and lubricants. Associated potential impacts would be addressed through conformance with applicable requirements under the NPDES, including the implementation of an approved storm water pollution prevention plan (SWPPP). A detailed assessment of NPDES requirements for issues including construction-related hazardous materials is provided in Section 4.8, with the analysis concluding that related impacts would be less than significant based on mandatory conformance with associated regulatory/industry standards. Project construction would also involve the use of imported fill to create building pads for proposed development. The Specific Plan EIR includes mitigation to address potential impacts associated with the occurrence of toxic or hazardous substances in such fill (MM 4.7-1c). Consistent with the related conclusions in the Specific Plan EIR, implementation of this measure would avoid or reduce all impacts associated with the potential occurrence of hazardous materials in imported fill below a level of significance.

As described below and in Sections 4.7.1 and 4.7.4 of this analysis, implementation of the proposed project would require the removal, transport and disposal of contaminated soils from on-site remediation efforts, potentially including soils containing arsenic, lead, cobalt, PAHs,

TPH compounds, and NOA (pursuant to MM 4.7-1a and 4.7-1c through 4.7-1e of the Specific Plan EIR, and the project-specific measures described below). As outlined in the Specific Plan EIR, however (including MM 4.7-1a), transport and disposal of hazardous materials would be subject to applicable regulatory requirements, including the federal Hazardous Materials Transport Act and pertinent requirements of the SWRCB/RWQCB, County DEH, DTSC, California Department of Transportation (Caltrans), California Highway Patrol (CHP), and Bay Area Air Quality Management District (BAAQMD). Accordingly, consistent with the analysis and conclusions in Section 4.7 of the Specific Plan EIR, potential impacts from project implementation related to the routine transport, use and disposal of hazardous materials would be less than significant based on required conformance with associated regulatory standards.

Residential properties to be developed under the proposed project could involve the routine use and disposal of hazardous materials including household/garden solvents, lubricants, and pesticides. These types of household materials typically include manufacture's recommendations for safe handling and disposal, pursuant to applicable federal, State and local regulatory requirements. Additionally, as outlined in Section 4.8 of this EIR, a number of water quality-related measures would be implemented regarding the proper use and disposal of household hazardous materials, including minimizing pesticide use and providing educational materials to homeowners. As a result, the on-site use and disposal of the described household hazardous materials are not expected to result in hazardous or unhealthful conditions for local residents and guests. Accordingly, consistent with the related conclusions in the Specific Plan EIR, associated potential impacts would be less than significant.

Reasonably Foreseeable Upset and Accident Conditions Involving the Release of Hazardous Materials

As described above, the potential transport, use and disposal of hazardous materials related to the proposed project would include transport/disposal of contaminated soil from on-site remediation efforts, and the use/disposal of household hazardous materials associated with proposed residential uses. All of these types of activities would be subject to applicable regulatory controls, and associated potential impacts were concluded to be less than significant. Based on these considerations, as well as the fact that no additional hazardous materials subject to accidental release/upset would be associated with the proposed project (e.g., from commercial or industrial uses), related potential impacts would be less than significant.

Pursuant to the discussion of Off-site Hazardous Material Sources below, modeling was conducted to assess potential impacts associated with the accidental release of hazardous materials at the Matheson Tri-Gas facility located approximately 1.3 miles east of the project site (DJP 2013, with potential impacts from the off-site release of hazardous material not addressed in the Dumbarton TOD Specific Plan EIR). The noted modeling was based on applicable criteria from the Federal Risk Management Program (RMP) and CalARP, including material quantity thresholds, storage container capacities, and established methodologies for assessing accidental

release impacts. Specifically, the analysis included both worst-case[1] and alternative[2] release scenarios for all chemicals determined to be above regulatory threshold quantities, and is conservative in that no engineering methods to prevent/reduce chemical releases were assumed (e.g., exhaust and ventilation controls, with such measures typically in place at applicable industrial facilities; DJP 2013). The modeling results for potential releases of ammonia, chlorine, nitrogen dioxide, and/or boron trichloride from the Tri-Gas facility are summarized below relative to the proposed Gateway Station West project site:

- Worst-case Release Scenario. Under the worst-case release scenario, the following conclusion are provided for the proposed project site: (1) the dispersal zone for boron trichloride was identified as 3.0 miles, which would encompass the entire project site and adjacent areas; (2) the dispersal zone for nitrogen dioxide was identified as 2.1 miles, which would encompass the entire project site and adjacent areas; (3) the dispersal zone for chlorine was identified as 1.3 miles, which could potentially include the eastern-most portion of the project site (including areas proposed for residential development); and (4) the dispersal zone for ammonia was identified as 0.3 mile, which would not include any portion of the project site or adjacent areas.

- Alternate Release Scenario. Under the alternate release scenario, the dispersal zones for nitrogen dioxide, boron trichloride, chlorine, and ammonia were identified as 1.1 miles, 1.0 mile, 0.3 mile and 0.1 mile, respectively. Based on the noted distance of the Matheson Tri-Gas facility from the project site (approximately 1.3 miles), none of the identified dispersal zones under the alternate release scenario would encompass any portion of the project site or adjacent areas.

From the above information, the project site and adjacent areas could potentially be subject to significant impacts related to a worst-case release of boron trichloride, nitrogen dioxide, and/or chlorine from the Tri-Gas facility. No impacts would be associated with a worst-case release of ammonia, or an alternate release of any of the evaluated chemicals. The modeling analysis identified a number of measures from U.S. Army Corps of Engineers (USACE) guidelines that could be used to help prevent catastrophic off-site consequences from an accidental release of hazardous materials (USACE 2001), including features such as:

- Architectural and mechanical design features, including elevating exterior air intakes and creating controlled air zones.

- Shut off switches for ventilation systems.

- Internal and external air filtration.

- Protective actions for perceptible hazards, such as pre-planning for evacuation or sheltering in place.

[1] The RMP worst-case release scenario represents the "worst possible off-site consequences" associated with complete release of chemicals from containers at maximum capacity, and does not address partial releases or the cause(s) of release.

[2] An alternative release scenario is defined as an event that is more likely to occur than the worst-case scenario (i.e., a less than complete release), but that may still have off-site impacts.

The referenced guidelines do not evaluate the feasibility of applying these measures to single-family residential uses; however, with most of the recommendations applicable to facilities such as office and institutional buildings with centralized air handling systems. Accordingly, the most feasible protection measure identified in the guidelines would involve implementing a warning system to alert future residents in the event of an off-site hazardous material release. Given the large areas potentially affected by accidental releases of hazardous substances as described, emergency warning programs would likely occur on a County- or City-wide basis, rather than for individual properties. In addition, there is no guarantee that any preventive measure, including public warning systems, would fully protect on-site occupants under all hazardous material release scenarios. As a result, there are no feasible project-specific mitigation measures that would fully protect future residents in the event of a worst-case accidental release of hazardous substances as modeled, and associated potential impacts are considered significant and unavoidable. It should also be stated, however, that the probability for such worst-case releases from the Matheson Tri-Gas facility (or other sites) is considered low, based on established regulatory requirements and industry standards designed to avoid or minimize such releases (e.g., engineering controls as previously described).

Be Located on a Hazardous Materials Site Listed Pursuant to Government Code Section 65962.5

Assessment of RECs Identified for Phase II Investigation

As described above in Section 4.7.1, the project site and adjacent properties have an extensive history of industrial and other uses that involve hazardous materials and wastes, with several on- and off-site areas included on one or more lists of hazardous materials sites compiled pursuant to Government Code Section 65962.5. The project site was evaluated in related Phase I and Phase II ESAs to assess the presence, nature and extent of on-site RECs, as well as to identify additional investigation/remediation requirements. Based on these investigations, nine RECs were identified within the site, with six of these recommended for additional (Phase II) investigation and remediation (i.e., REC Nos. 1, 2, 4, 5, 7 and 8). Pertinent conditions at the six noted RECs are outlined below along with related assessments of potential impacts and mitigation requirements (and the REC locations depicted on Figure 4.7-1). In addition, while Phase II investigations were not recommended or conducted at the remaining three REC sites (REC No. 3, 6 and 9), associated potential impacts are described below based on the Phase I ESA analysis and related information.

- REC No. 1 – Former Magnesia Pile. The investigation of REC No. 1 identified: (1) arsenic concentrations in one sample at a depth of five feet that exceeded background levels, although overall arsenic levels "…appear consistent with background concentrations…" (H&A 2014b); (2) cobalt concentrations in four samples at depths of 5 to 9 feet that exceeded associated screening levels; and (3) pH levels of 8.64 and 8.67 in three samples at depths of 2.5 to 5 feet. While arsenic levels were concluded to be generally consistent with background levels, and all of the samples with elevated arsenic and cobalt levels occur at depths that would likely not be impacted by proposed development, associated impacts are considered potentially significant due to the preliminary nature of project design and the potential for site excavations (e.g., in association with deeper subsurface utilities) to encounter contaminated soil and a potentially significant impact is identified.

- REC No. 2 – Impacted Groundwater. This REC is associated with groundwater contamination at an off-site property. The investigation of REC No. 2 detected a number of VOCs in associated soil gas, although none of the observed concentrations exceeded associated screening levels. While the proposed project would not use on-site groundwater for consumptive or other purposes, local groundwater could potentially be encountered during project construction activities, and could potentially impact residential sites through VOC soil gas migration. The issue of construction-related groundwater extraction/disposal is addressed in Section 4.8, with the analysis concluding that associated impacts are potentially significant and subject to related mitigation (as identified in Section 4.8.4). The generation of soil gas from VOCs in local groundwater is also considered potentially significant.

- REC No. 4 – Former NSC Area. The investigation of REC No. 4 identified: (1) arsenic concentrations in one sample at a depth of 0.5 foot that exceeded background levels; (2) lead concentrations in three samples at depths of between 0.5 and 5 feet that exceeded screening levels; and (3) a number of PAHs at depths of 0.5 to 2.5 feet in multiple samples that exceeded associated screening levels. Based on these conditions, associated potential impacts are considered significant.

- REC No. 5 – Pistol Range. The investigation of REC No. 5 identified cobalt concentrations in five samples at depths of 0.5 to 2.5 feet that exceeded associated screening levels. Based on these conditions, associated potential impacts are considered significant.

- REC No. 7 – E-1 Drainage Ditch. The investigation of REC No. 7 identified: (1) arsenic concentrations in three samples at a depth of 0.5 foot that exceeded background levels; (2) lead concentrations in two samples at a depth of 0.5 foot that exceeded screening levels; (3) PAH concentrations in three samples at a depth of 0.5 foot that exceeded screening levels; (4) TPHd and TPHmo concentrations in four samples at a depth of 0.5 foot that exceeded associated screening levels; and (5) pH levels of 8.56 in one sample at a depth of 0.5 foot, and 8.66 in one sample at a depth of 2.5 feet. The Phase II investigation also notes that "Although the entire length of the E-1 Drainage Ditch was not uniformly sampled, impacts at the northern and southern ends are very similar and therefore it should be assumed the entire length will require remediation." Based on these conditions, associated potential impacts are considered significant.

- REC No. 8 –Settling Ponds and Detention Basin. The investigation of REC No. 8 identified: (1) TPHd concentrations in one sample at a depth of 2.5 feet in the detention basin that exceeded the associated screening levels; (2) cobalt concentrations in two samples at depths of 0.5 to 2.5 feet in the detention basin that exceeded associated screening levels; and (3) pH levels ranging from 8.51to 9.51 in 10 samples at depths of 0.5 to 2.5 feet in the settling ponds, and pH levels of 8.65 and 8.67 in two samples at depths of 2.5 feet in the detention basin. Based on these conditions, associated potential impacts are considered significant.

Assessment of RECs Not Identified for Phase II Investigation

As noted above, Phase II investigation was not conducted for REC Nos. 3, 6 and 9, with related impact discussions provided below based on the Phase I ESA analysis and related information.

- REC No. 3 – Former Bittern Truck Loading Area. This area in the southwestern corner of the project site was identified as a former bittern loading area, and may potentially include soils with residual salt content (with oil also reportedly discharged to overflow ponds in this area). The Phase I ESA noted that impacted soils from the former bittern area "…may require special handling or disposal if this area is redeveloped." Because the former bittern loading area is within Parcel GGG (proposed open space/wetland reserve), however, this area would not be affected by proposed development (or other ground-disturbing activities) and no impacts would result from project implementation.

- REC No. 6 – Naturally Occurring Asbestos. As previously described, this area contains NOA in the form of serpentinite, with documented NOA at concentrations ranging from 0.25 to 6.25 percent (H&A 2014a). The NOA area (or South Hill as previously described) would be subject to disturbance from proposed development, with associated impacts from potential release of NOA materials considered significant.

- REC No. 9 – Historical Industrial Use. Pursuant to the Phase I ESA investigation results, previously unidentified buried structures, debris or impacted soil may potentially be encountered during site development activities, due to the occurrence of previous on-site industrial uses. Accordingly, associated potential impacts would be significant.

Based on the above discussions, the project site includes areas that are listed pursuant to Government Code Section 65962.5, as well as additional sites where on-site contaminants exceed associated screening/background levels or otherwise represent hazardous conditions for proposed development. Accordingly, associated potential impacts from project implementation would be potentially significant, with related mitigation identified below in Section 4.7.4.

Emission or Handling of Hazardous Materials with One-quarter Mile of a School

The project site is not located within one-quarter mile of any known existing or proposed schools. The closest schools to the project site include August Schilling Elementary School approximately 0.6 mile to the northeast, and Lincoln Elementary School approximately one mile to the north (and no schools are proposed as part of the Specific Plan development). Based on the described information, project implementation would not result in any impacts related to emitting or handling hazardous materials within one-quarter mile of an existing or proposed school.

Impair or Interfere With an Adopted Emergency Response or Evacuation Plan

The City has adopted two emergency response plans: the Emergency Operations Plan and the Chemical Emergency Preparedness Supporting Plan (RBF 2011). The Emergency Operations Plan provides operational procedures for responding to a variety of emergency conditions, including earthquakes, flooding, tsunamis, hazardous material incidents, and civil defense conditions. The guidelines included in this plan address the needs of the entire community and

identify key responsible agencies and personnel. While this plan is considered acceptable and able to address City-wide emergencies, the City has established an Emergency Operations Center that can more effectively and efficiently evaluate and deal with City-wide emergencies.

The Chemical Emergency Preparedness Supporting Plan establishes standard operating procedures for responding to chemical spills or other hazardous materials incidents. The City also maintains cooperation with other emergency response agencies, such as local fire departments.

In addition, the Association of Bay Area Governments (ABAG) has prepared a Local Hazard Mitigation Plan (LHMP) to prepare for and mitigate the effects of potential hazards in the Bay Area. Although the LHMP covers multiple communities, it has been adopted by covered municipalities (including the City) to ensure a coordinated regional approach to disaster response.

Implementation of the proposed project would not involve closures or other impacts to local/regional roadways or other facilities that may be utilized as part of emergency response or evacuation plan activities. Similarly, because the proposed project consists primarily of residential uses, long-term site operation and maintenance would not be expected to impair or interfere with emergency response or evacuation plan activities. As a result, consistent with the related conclusions in the Specific Plan EIR, potential project-related impacts to adopted emergency response or evacuation plans would be less than significant.

Protection of Existing Groundwater Wells

As previously described, the Specific Plan EIR included a mitigation requirement regarding the protection of existing groundwater wells from development. Pursuant to the discussion below, the ACWD regulates the protection of existing groundwater wells through the Groundwater Protection Act (Ordinance No. 2010-01, Resolution No. 10-066). Specifically, all applicable activities described in the Act are required to obtain a permit from the ACWD prior to the start of associated work, and to comply with all related conditions to protect groundwater resources and wells. There are four existing groundwater monitoring well in the northeastern portion of the site as previously noted, all of which are located in areas proposed for development under the proposed project design. Accordingly, associated potential impacts would be significant, and related mitigation is identified below to address this concern.

4.7.4 Level of Significance Before Mitigation

Prior to mitigation, implementation of the proposed project would result in significant potential impacts related to the known and (potentially) unknown occurrence of hazardous materials within the project site and adjacent properties, the potential release of hazardous materials from more distant off-site sources, and effects to existing on-site groundwater monitoring wells associated with off-site remediation efforts.

4.7.5 Mitigation Measures

Section 4.7 of the Dumbarton TOD Specific Plan EIR identified MMs 4.7-1a through 4.7-1e to address identified potentially significant impacts related to hazards and hazardous materials

within the Specific Plan area. These measures include requirements to conduct detailed investigations of known hazardous material occurrences, related risks, and remediation options for all proposed development (with relevant Specific Plan EIR mitigation measures listed below). While many of these requirements have been met through the described project-specific Phase I and Phase II ESAs (H&A 2014a and 2014b), additional project-specific requirements are identified below to supplement the Specific Plan EIR mitigation and address potential impacts from proposed project implementation.

Relevant Mitigation Measures from the Dumbarton TOD Specific Plan EIR

The following mitigation measures are identified in the Dumbarton TOD Specific Plan EIR. As noted above, portions of MM 4.7-1a have been implemented through completion of the project Phase I and Phase II ESA investigations, including summarizing available information, assessing data gaps, and identifying and implementing additional investigations such as health risk assessments (with the remaining requirements in this measure addressed below in more detail as part of project-specific MMs under MM HZ-2). Pertinent elements of the TOD Specific Plan EIR MMs 4.7-1b through 4.7-1e remain applicable to the proposed project and shall be implemented prior to site disturbance to address associated environmental impacts:

MM 4.7-1b Prior to grading permit issuance, areas to be graded shall be cleared of debris, significant vegetation, pre-existing abandoned utilities, buried structures, and asphalt concrete.

MM 4.7-1c Prior to the import of a soil to a particular property within the Specific Plan area as part of that property's site development, such soils shall be sampled for toxic or hazardous materials exceeding applicable Environmental Screening Levels for the proposed land use at such a property as required by the Oversight Agency prior to importing to such a property.

MM 4.7-1d Areas containing Naturally Occurring Asbestos (NOA) within the Dumbarton TOD Specific Plan area shall be confirmed prior to grading permit issuance. Prior to grading or construction of a particular property containing NOA, an application from the Bay Area Air Quality Management District (BAAQMD) shall be required for projects over one-acre in size. Dust control and an NOA air monitoring program shall be required. Additionally, the following general construction practices shall be adhered to for those properties containing NOA:

- The site shall be maintained in a wet condition to prevent airborne dust. On-site soil shall be wetted during grading and trenching operations.
- Over excavation and removal of NOA material to one foot below utility is recommended for utility corridors.

MM 4.7-1e On those properties where NOA is known to occur, the following measures shall be used for guidance only. The specific requirements for each property shall be determined by the risks involved and appropriate mitigation measures required to protect human health.

- Detached Single Family Residences – A minimum 3-foot soil cover in building pad areas, extending at least 5 feet beyond the building perimeter is recommended. Deed restrictions should be considered (such as not allowing swimming pools) if there is less than 10-feet of soil cover over the serpentinite with NOA.
- Podium Type Multi-Unit Residential Structures – A minimum 2-foot thick soil cover is recommended.
- Pavement and Concrete Hardscape – If NOA material is covered to prevent airborne dust after construction, soil cover is not required.
- Landscaped Areas – A minimum 2-foot thick soil cover in landscaped areas is recommended.

Project-Specific Mitigation Measures

A number of additional project-specific requirements are identified below to supplement the noted Specific Plan EIR mitigation and address associated potential impacts related hazards and hazardous materials.

MM HZ-1 A qualified hazardous materials specialist shall review final project grading and development plans prior to approval to verify related conditions and assumptions in the project Phase I and Phase II ESAs, or to identify modified and/or additional requirements.

MM HZ-2 After completion of final project grading and development plans, but prior to the issuance of grading or building permits for the proposed Gateway Station West project, a Hazardous Materials Remediation Plan (HMRP) shall be prepared by a qualified hazardous materials specialist and submitted to the City and applicable Oversight Agencies (e.g., the RWQCB, DTSC and County DEH) for review and approval. The HMRP shall address remediation requirements (as applicable) for all potential hazardous material impacts identified in the project Phase I and Phase II ESAs, as well as other pertinent sources, based on review of final project grading and development plans. Specifically, remediation requirements in the HMRP shall include the following:

- REC No. 1 – Former Magnesia Site. If the project grading plans identify deeper excavations (e.g., underground utilities) in applicable portions of the REC No. 1 area, associated soils exhibiting the following characteristics shall be removed and properly disposed of at an approved off-site location: (1) arsenic concentrations above the identified

background level (11 mg/kg); (2) cobalt concentrations above the identified screening level (23 mg/kg); and (3) pH levels above 8.5.

- REC No. 2 – Impacted Groundwater. Pursuant to coordination with and direction by the RWQCB, vapor intrusion engineering controls (e.g., seals or barriers) shall be implemented in applicable locations to address potential VOC vapor intrusion impacts from shallow groundwater.

- REC No. 4 – Former NSC Area. Soils within the proposed development area exhibiting the following characteristics shall be removed and properly disposed of at an approved off-site location: (1) arsenic concentrations above the identified background level (11 mg/kg); (2) lead concentrations above the identified screening level (80 mg/kg); and (3) PAH compounds with concentrations above the identified screening levels (as identified for individual compounds in the Phase II ESA, H&A 2014b).

- REC No. 5 – Pistol Range. Soils exhibiting cobalt concentrations above the identified screening level (23 mg/kg) shall be removed and properly disposed of at an approved off-site location.

- REC No. 6 – Naturally Occurring Asbestos. The HMRP analysis of REC No. 6 shall include requirements to: (1) implement Specific Plan EIR MM 4.7-1d, including dust control, air quality monitoring, and overexcavation for applicable utilities, as well as other pertinent measures identified in the HMRP (if applicable); and (2) review the NOA requirements identified in Specific Plan EIR MM 4.7-1e to determine if the associated requirements are applicable to the proposed project, or to identify other applicable measures to provide appropriate remediation of NOA in conformance with associated regulatory standards.

- REC No. 7 – E-1 Drainage Ditch. Soils along the entire length of the E-1 Drainage Ditch that exhibit the following characteristics shall be removed and properly disposed of at an approved off-site location: (1) arsenic concentrations above the identified background level (11 mg/kg); (2) lead concentrations above the identified screening level (80 mg/kg); (3) PAH compounds with concentrations above the identified screening levels (as identified for individual compounds in the Phase II ESA, H&A 2014b); (4) TPHd and TPHmo with concentrations above the identified screening levels (110 mg/kg for TPHd, and 2,500 mg/kg for TPHmo); and (5) pH levels above 8.5.

- REC No. 8 – E-1 Settling Ponds and Detention Basin. Soils exhibiting the following characteristics shall be removed and properly disposed of at an approved off-site location: (1) cobalt concentrations at the detention basin above the identified screening level (23 mg/kg); (2) TPHd at the detention basin with concentrations above the identified screening level (110 mg/kg); and (3) pH levels above 8.5 at the settling ponds and detention basin.

- REC No. 9 – Historical Industrial Use. Based on the extensive history of industrial activities within and adjacent to the project site, all applicable project-related grading and excavation activities (as identified in the HMRP) shall be monitored by a qualified hazardous materials specialist for the potential occurrence of currently unknown hazardous materials or other hazards. If such conditions are encountered, activities shall cease in the subject area until appropriate remediation efforts are identified by a qualified hazardous materials specialist, reviewed and approved by the appropriate regulatory agencies, and properly implemented.

MM HZ-3 All project grading, excavation and development activities in the vicinity of the four on-site groundwater monitoring wells (W-25 and B-26 through B-28, refer to SEIR Figure 4.7-1) shall conform with applicable related requirements in the ACWD Groundwater Protection Act (Ordinance No, 2010-01). Specifically, the project applicant (or a designated representative of the applicant) shall provide written verification to the City that all applicable requirements related to well protection, destruction and/or abandonment have been implemented to the satisfaction of the ACWD.

4.7.6 Level of Significance After Mitigation

Based on the implementation of all proposed project design features, applicable mitigation from Section 4.7 of the Dumbarton TOD Specific Plan EIR, and the project-specific MMs described in this section, all identified potential impacts related to hazards and hazardous materials would be avoided or reduced below a level of significance, with the exception of identified worst-case chemical releases from the Matheson Tri-Gas facility. Specifically, potential impacts from a worst-case scenario release of boron trichloride, nitrogen dioxide, and/or chlorine would be significant and unavoidable, although the probability for such an occurrence is considered low based on established regulatory requirements and industry standards designed to avoid or minimize such releases.

4.8 HYDROLOGY/WATER QUALITY

This section describes existing hydrologic and water quality conditions within the site and applicable off-site areas, identifies pertinent regulatory/industry standards, and evaluates potential impacts and associated mitigation measures related to project implementation.

A Technical Memorandum summarizing local hydrologic and water quality conditions, associated regulatory requirements, and proposed project drainage and storm water quality systems was prepared for the proposed project by Carlson, Barbee & Gibson, Inc. (CB&G, 2015b). This Memo incorporates associated data from regulatory guidelines and the project Tentative Map (TM), including Sheets TM-3 (Preliminary Grading and Drainage Plan) and TM-5 (Preliminary Storm Water Control Plan), with the complete TM included as Appendix B of this SEIR. The Drainage/Water Quality Technical Memo is summarized below, along with information from other applicable sources including the Dumbarton TOD Specific Plan EIR (RBF consulting [RBF] 2011) and the City of Newark (City) General Plan (2013). The complete Technical Memorandum and related attachments are included in Appendix I of this SEIR.

4.8.1 Environmental Setting

Watershed and Drainage Characteristics

The project site and proposed off-site improvements are located within the Santa Clara Hydrologic Unit (HU), one of seven such designations identified in the San Francisco Bay Regional Water Quality Control Board (RWQCB) *Water Quality Control Plan for the San Francisco Bay Basin* (Basin Plan, 2011 as amended). The Santa Clara HU is an irregularly shaped area encompassing approximately 840 square miles, and includes the southernmost portion of San Francisco Bay, or South Bay, and a number of associated watersheds (Figure 4.8-1, *Project Location within Local Hydrologic Designations*). The project site and vicinity are located within the Plummer Creek Watershed, which includes approximately 1,400 acres and extends from near Fremont Boulevard (east of Interstate 880 [I-880]) to San Francisco Bay (CB&G 2015b). The project site and associated off-site areas (including the proposed off-site roadway and drainage improvements) are within the lower (downstream) portion of this watershed, and are largely undeveloped with no related storm drain systems in place. Surface flows within the site consist predominantly of storm water runoff (including flows generated within the site and on adjacent properties to the north and east), which sheet flows to an existing swale along the western site boundary. Flows within this swale continue generally south to the southwestern property corner, and would normally enter an unnamed (off-site) tidal slough via an existing culvert and continue approximately 1,500 feet south to Plummer Creek (and eventually enter San Francisco Bay approximately 1.2 miles southwest of the site, CB&G 2015b). A sheet pile was previously placed across the noted swale and culvert at the southwestern site corner, however, to prevent off-site storm flow discharge (as well as the influx of tidal flows), due to potential contamination from current and previous on- and off-site sources (refer to Section 4.7, *Hazards and Hazardous Materials*, for additional information). Accordingly, there is currently no off-site storm flow from the project site and associated upstream watershed areas. Average annual precipitation in the project site vicinity (City of

Newark, 94560) is approximately 15 inches, with much of this (over 93 percent) occurring during the period of October through April (Melissadata.com. 2015).

The Plummer Creek Watershed is located within Zone 5 of the Alameda County Flood Control and Water Conservation District (ACFC). Existing nearby ACFC drainage facilities include the F1 Channel to the south (along Central Avenue) and the F6 Ditch to the east (along Willow Street) and south (along Central Avenue), both of which are constructed channels. These facilities discharge to the unnamed slough south of the project site (F-6) and Plummer Creek (F-1), with associated flows ultimately entering San Francisco Bay as described for the project site. Additional local drainage facilities include City storm drains ranging from 18 to 36 inches in diameter located along nearby portions of Willow Street and Enterprise Drive (CB&G 2015b).

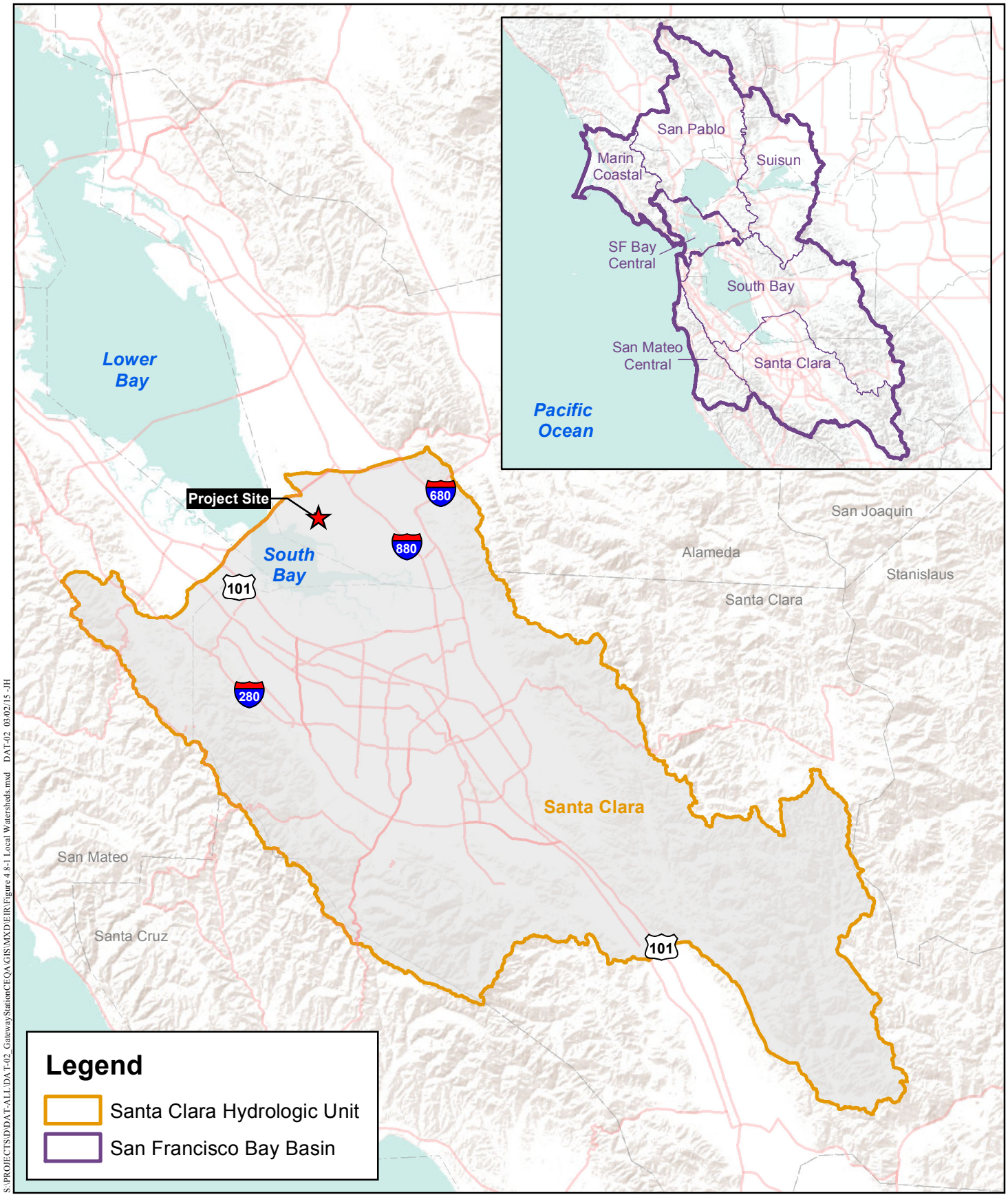
Flood Hazards

The Federal Emergency Management Agency (FEMA) has mapped flood hazards within the project site and vicinity, with local FEMA mapping depicted on Figure 4.8-2, *Project Site Location Within Mapped FEMA Floodplains*. As shown on this map, the project site and associated off-site roadway/drainage improvements encompass three flood-related designations: (1) Zone X, or areas determined to be outside the 500-year (and 100-year) floodplain; (2) Zone X "Shaded" (shown as areas with black stippling on Figure 4.8-2), or areas within the 500-year floodplain, areas within the 100-year floodplain with depths of less than one foot or a watershed of less than one square mile, and areas protected from the 100-year flood by levees; and (3) Zone AE (EL 11), or areas within the 100-year floodplain with base flood elevations determined (FEMA 2009). As indicated, the base flood elevation for the AE Zone areas within and adjacent to the site is identified as 11 feet per North American Vertical Datum (NAVD) 88, or 8.24 feet per National Geodetic Vertical Datum (NGVD) 29 (CB&G 2015b).

Groundwater

The project site and vicinity are within the areal extent of the Niles Cone Groundwater Basin, a subbasin of the Santa Clara Valley Groundwater Basin. The Niles Cone Basin includes a surface area of approximately 103 square miles along the southeastern portion of San Francisco Bay, with water-bearing formations consisting mainly of alluvium (California Department of Water Resources [DWR] 2003). As described in the Dumbarton TOD Specific Plan EIR (RBF 2011), the Niles Cone Basin includes a series of generally horizontal aquifers separated by clay aquitards (low-permeability layers that restrict groundwater movement) west of the Hayward Fault Zone, with two water-bearing zones identified within the upper 70 feet of alluvium in the project site vicinity. These include a "shallow zone" at depths of between approximately 2 to 20 feet, and a deeper zone (the Newark Aquifer) between approximately 50 and 70 feet below the surface (with these two zones separated by the Newark Aquitard). Groundwater movement in both local zones is generally to the west and south, although local gradients have been influenced by groundwater extraction (RBF 2011).

As described in Section 4.5, *Geology and Soils*, and Appendix G, shallow groundwater was encountered in alluvial deposits in the northern and southern portions of the site at depths of between 5 to 9 feet below the surface during geotechnical exploration. Additional (previous)



S:\PROJECTS\DDAT-ALL\DAT-02_GatewayStationCEQA\GIS\MXD\EIR\Figure 4.8-1 Local Watersheds.mxd DAT-02 03/02/15 - JH

Source: USGS, Esri 2014

Project Location Within Local Hydrologic Designations

GATEWAY STATION WEST

HELIX Environmental Planning

N 0 8 Miles 1 inch = 8 miles

Figure 4.8-1

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Source: FEMA FIRM 06001C04436, 2009

Project Site Location Within Mapped FEMA Floodplain Designations

GATEWAY STATION WEST

Figure 4.8-2

HELIX Environmental Planning

on-site investigations and historical (2003) groundwater records for the site vicinity identified similar conditions, with groundwater observed at depths of between 6.5 and 18 feet on site, and nearby off-site groundwater levels documented at depths as shallow as 5 feet. Local groundwater levels are anticipated to vary with conditions including "…tidal fluctuations, seasonal rainfall, time of year, water level in the adjacent salt ponds and local irrigation practices…" (Berlogar Stevens & Associates [BSA] 2013).

Water Quality

Surface Water

As indicated above, on-site flows consist predominantly of storm water runoff (including flows derived from on- and off-site sources). Storm flows are typically subject to variations in water quality due to local conditions such as runoff rates/amounts and land use. A summary of typical pollutant sources and loadings for various land use types is provided in Table 4.8-1, *Summary of Typical Pollutant Sources for Urban Storm Water Runoff*, and Table 4.8-2, *Typical Loadings for Selected Pollutants in Runoff from Various Land Uses*. The previously described 1,400-acre Plummer Creek Watershed is mostly developed with urban uses, including extensive residential, commercial and industrial sites. Current on-site land uses include construction storage, police training facilities (a firing range and K-9 training site with an associated septic tank) and an electrical transmission tower/lines, with former uses including a private firing range and industrial salt production. Based on these conditions, the Dumbarton TOD Specific Plan EIR identified potential on-site pollutants including sediment, nutrients, oxygen-demanding substances, heavy metals, petroleum hydrocarbons, pathogens, and chemicals of concern (COCs) associated with previous on- and off-site uses (RBF 2011).

As summarized below, known surface water quality data for the project site and associated upstream and downstream watershed areas include: (1) on-site testing conducted under a National Pollutant Discharge Elimination System (NPDES) Industrial General Permit; (2) bioassessment ratings (as described below) from upstream testing along Plummer Creek in association with the San Francisco RWQCB NPDES Municipal Permit (with additional permit information provided below in Section 4.8.2, *Regulatory Setting*); and (3) qualitative data associated with the Clean Water Act (CWA) Section 303(d) impaired water listings and RWQCB Basin Plan standards.

NPDES Industrial General Permit Sampling/Testing

As noted in the Phase I Environmental Site Assessment (ESA) conducted for the proposed project (Haley & Aldrich, Inc. [H&A] 2014a), storm water runoff within the site was subject to sampling under an NPDES General Industrial Permit. Specifically, this monitoring was associated with previous salt production operations and remnant magnesia (magnesium oxide) deposits, with sampling conducted for storm flows discharged from the magnesia stockpile, prior to entering the previously described on-site swale (refer to Sections 4.5 and 4.7 for additional information). Associated monitoring data for the period of January 2002 through February 2008 indicate the following results for storm water runoff from the site (H&A 2014a): (1) pH levels averaged 8.5; (2) total suspended solids (TSS) averaged 137 milligrams per liter (mg/l);

(3) specific conductance (SC, a measure of how well water conducts electrical current) averaged 26,830 micro-mhos per centimeter (umhos/cm); (4) iron levels averaged 7.2 mg/l; and (5) oil and grease were not detected. Observed constituent levels exceeded U.S. Environmental protection Agency (USEPA) benchmark values for pH (one sample), TSS (five samples), iron (four samples), and SC (all samples) during the noted monitoring period. As previously noted, there is currently no storm water discharge from the site, with associated sampling therefore not being conducted.

Table 4.8-1
SUMMARY OF TYPICAL POLLUTANT SOURCES
FOR URBAN STORM WATER RUNOFF

Pollutants	Pollutant Sources
Sediment and Trash/Debris	Streets, landscaping, driveways, parking areas, rooftops, construction activities, atmospheric deposition, drainage channel erosion
Pesticides and Herbicides	Landscaping, roadsides, utility right-of-ways, soil wash-off
Organic Compounds	Landscaping, streets, parking areas, animal wastes, recreation areas
Oxygen Demanding Substances	Landscaping, animal wastes, leaky sanitary sewer lines, recreation areas
Heavy Metals	Automobiles, bridges, atmospheric deposition, industrial areas, soil erosion, corroding metal surfaces, combustion processes
Oil and Grease/Hydrocarbons	Roads, driveways, parking lots, vehicle maintenance areas, gas stations, illicit dumping to storm drains
Pathogens (Bacteria and Viruses)	Landscaping, roads, leaky sanitary sewer lines, sanitary sewer cross-connections, animal wastes, recreation areas
Nutrients (Nitrogen and Phosphorus)	Rooftops, landscaping, atmospheric deposition, automobile exhaust, soil erosion, animal wastes, detergents, recreation areas

Source: USEPA 1999

Table 4.8-2
TYPICAL LOADINGS FOR SELECTED POLLUTANTS IN RUNOFF FROM VARIOUS LAND USES
(lbs/acre/year)

Land Use	TSS	TP	TKN	NH_3 - N	NO_2 + NO_3 - N	BOD	COD	Pb	Zn	Cu
Commercial	1000	1.5	6.7	1.9	3.1	62	420	2.7	2.1	0.4
Parking Lot	400	0.7	5.1	2	2.9	47	270	0.8	0.8	0.04
HDR	420	1	4.2	0.8	2	27	170	0.8	0.7	0.03
MDR	190	0.5	2.5	0.5	1.4	13	72	0.2	0.2	0.14
LDR	10	0.04	0.03	0.02	0.1	N/A	N/A	0.01	0.04	0.01
Freeway	880	0.9	7.9	1.5	4.2	N/A	N/A	4.5	2.1	0.37
Industrial	860	1.3	3.8	0.2	1.3	N/A	N/A	2.4	7.3	0.5
Park	3	0.03	1.5	N/A	0.3	N/A	2	0	N/A	N/A
Construction	6000	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Source: USEPA 1999
HDR = High Density Residential; MDR = Medium Density Residential; LDR = Low Density Residential
N/A = Not available; insufficient data to characterize
Abbreviations: TSS = Total Suspended Solids; TP = Total Phosphorus; TKN = Total Kjeldahl Nitrogen;
NH_3 – N = Ammonia - Nitrogen; NO_2 + NO_3 – N = Nitrite + Nitrate - Nitrogen; BOD = Biochemical Oxygen Demand;
COD = Chemical Oxygen Demand; Pb = Lead; Zn = Zinc; Cu = Copper

The elevated pH, TSS and SC levels are attributed to small amounts of residual on-site magnesia solids as noted, with the associated benchmark levels not comprising numeric storm water effluent limits. That is, when applicable benchmark levels are exceeded, the associated permittee is required to coordinate with the RWQCB to identify the likely source(s) of the subject constituents and implement additional and/or revised BMPs as necessary to address the situation. As noted in Section 4.5, the on-site magnesia deposits have reportedly been removed.

NPDES Municipal Permit Bioassessment Sampling/Testing

Bioassessment testing involves the evaluation of biological indicators to assess stream conditions, including water quality, related to benthic invertebrate communities. The Alameda Countywide Clean Water Program (ACCWP), which includes the City and County of Alameda (County) as member agencies, conducts various monitoring efforts in association with the San Francisco RWQCB NPDES Municipal Permit, including bioassessment. Specifically, this involves the use of methods including the Index of Biotic Integrity (IBI), which provides a quantified score reflecting biological conditions and associated water quality, and the California Stream Condition Index (CSCI), which considers watershed attributes to identify comparable reference sites. The 2012/2013 season ACCWP Integrated Monitoring Report identified CSCI scores for 135 sites sampled between 2002 and 2013 in Alameda County, including one location along Plummer Creek near I-880 (approximately 2.3 miles upstream of the project site). The resultant undated CSCI score at this location was rated as poor, which reflects (at least in part) local water quality conditions (ACCWP 2014).

Section 303(d) Impaired Water Bodies and Total Maximum Daily Loads

The SWRCB and RWQCBs produce bi-annual qualitative assessments of statewide and regional water quality conditions. These assessments are focused on CWA Section 303(d) impaired water listings and scheduling for assignment of total maximum daily load (TMDL) requirements. A TMDL establishes the maximum amount of an impairing substance or stressor that a water body can assimilate and still meet water quality standards, and allocates that load among pollution contributors. TMDLs are quantitative tools for implementing the state's water quality standards, based on the relationship between pollution sources and water quality conditions. The 303(d) list is the primary vehicle for protecting water quality in impaired water bodies and related Basin Plan beneficial uses. The most current (2010) approved assessment identifies downstream impaired waters at various locations in San Francisco Bay, including the following listings for the South Bay: (1) pesticides including chlordane, DDT and dieldrin; (2) organic compounds including dioxin and furan; (3) invasive species; (4) mercury; (5) polychlorinated biphenyls (PCBs); and (6) selenium (SWRCB 2015). Adopted TMDLs for San Francisco Bay include mercury and PCBs, with additional TMDLs pending (RWQCB 2011 as amended).

San Francisco Bay Basin Plan

While the Basin Plan does not include water quality data per se, it does provide regulatory standards that are based on factors including local water quality (with additional discussion of regulatory standards provided below in Section 4.8.2). Specifically, the TMDLs identified above for San Francisco Bay are used as part of the overall Basin Plan water quality attainment strategy (RWQCB 2011 as amended).

Groundwater

As noted above, the project site and vicinity include a number of previous and/or current uses, such as industrial operations, with associated documented and potential effects to local groundwater quality. As a result, groundwater monitoring is being conducted at a number of on- and off-site locations, including four monitoring wells in the northeastern portion of the project site. Available data from these investigations include: (1) on- and off-site groundwater sampling associated with off-site hazardous material remediation efforts; and (2) on-site soil gas monitoring conducted as part of the project site hazardous materials investigations.

On- and Off-site Groundwater Monitoring

Groundwater monitoring is being conducted in association with hazardous material remediation efforts at an adjacent off-site property, per RWQCB Order No. R2-2005-0038. These efforts involve 30 monitoring wells, including four located within the northeastern portion of the project site. Based on review of associated monitoring data for the period of January through June 2013,

the project Phase I ESA (H&A 2014a) notes that, while a number of observed COCs at the off-site property under remediation exceed associated site cleanup requirements (SCRs):

- Shallow Zone groundwater COC levels above SCRs are limited to the off-site property under remediation, as "…COCs have not exceeded SCRs in cross-gradient and downgradient Shallow Zone groundwater..." (i.e., including the project site).
- Since implementation of the off-site remedial activities, the estimated total volatile organic compound (VOC) mass reduction in groundwater is 88 percent, which demonstrates that the program has been effective in reducing the VOC mass in Shallow Zone groundwater.
- Groundwater samples from three of the on-site monitoring wells in April 2013 (with testing not conducted at the fourth on-site well) indicate that "VOCs were not detected above laboratory reporting limits…" (although trace amounts of two VOCs were observed in one sample).

On-site Soil Gas Sampling/Testing

As part of the Phase II ESA investigation conducted for the project site, soil gas samples were collected from 12 locations in the northeastern portion of the project site to: "…assess potential soil gas impacts that may be associated with impacted groundwater from upgradient sources." (H&A 2014b). The noted samples were tested for VOCs (e.g., benzene), with the Phase II analysis concluding that while several VOCs were detected, "…concentrations do not exceed screening levels…" and off-site groundwater contamination "…does not pose a vapor intrusion threat…" on the project site (although it is also noted that associated regulatory controls may be required due to the project site proximity to the off-site contaminant source, H&A 2014b). Additional discussion of the off-site hazardous material sites and related remediation efforts is provided in Section 4.7 of this SEIR.

4.8.2 Regulatory Setting

The proposed project is subject to a number of regulatory requirements related to hydrology and water quality under federal, state and local guidelines. A number of these requirements are outlined in the Dumbarton TOD Specific Plan EIR (RBF 2011), with related and/or additional information provided below.

Federal

National Pollutant Discharge Elimination System Requirements

The proposed project is subject to applicable elements of the CWA, including the NPDES. Specific NPDES requirements associated with the proposed project include conformance with the following: (1) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit, NPDES No. CAS000002, SWRCB Order 2009-0009-DWQ; as amended by Order No. 2010-0014-DWQ); (2) San Francisco Bay Region Municipal Regional Stormwater NPDES Permit (Municipal Permit, NPDES No.

CAS 612008, RWQCB Order No. R2-2009-0074; as amended by Order No. R2-2011-0083); and (4) related City and ACCWP standards as outlined below.

General Construction Activity Storm Water Permit

Conformance with the Construction General Permit is required prior to development of applicable sites exceeding one acre, with this permit issued by the SWRCB under an agreement with the USEPA. Specific conformance requirements include implementing a Storm Water Pollution Prevention Plan (SWPPP), an associated Construction Site Monitoring Program (CSMP), employee training, and minimum BMPs, as well as a Rain Event Action Plan (REAP) for applicable projects (e.g., those in Risk Categories 2 or 3, as outlined below). Under the Construction General Permit, project sites are designated as Risk Level 1 through 3 based on site-specific criteria (e.g., sediment erosion and receiving water risk), with Risk Level 3 sites requiring the most stringent controls. Based on the site-specific risk level designation, the SWPPP and related plans/efforts identify detailed measures to prevent and control the off-site discharge of pollutants in storm water runoff. Depending on the risk level, these may include efforts such as mandatory technology-based action levels, effluent and receiving water monitoring/reporting, and advanced treatment systems (ATS). Specific pollution control measures require the use of best available technology economically achievable (BAT) and/or best conventional pollutant control technology (BCT) levels of treatment, with these requirements implemented through applicable BMPs. While site-specific measures vary with conditions such as risk level, proposed grading, and slope/soil characteristics, detailed guidance for construction-related BMPs is provided in the permit and related City/ACCWP standards (as outlined below), as well as additional sources including the *EPA National Menu of Best Management Practices for Storm Water Phase II – Construction* (USEPA 2013), and *Storm Water Best Management Practices Handbooks* (California Stormwater Quality Association [CASQA] 2009). Specific requirements for the proposed project under this permit would be determined during SWPPP development, after completion of project plans and application submittal to the SWRCB.

Municipal Regional Stormwater Permit

The current Municipal Permit (R2-2009-0074) became effective on December 1, 2009, with the associated permit amendment (R2-2011-0083) effective as of December 1, 2011. The Municipal Permit is intended to protect/preserve water quality and provide conformance with pertinent water quality standards, including the CWA and the RWQCB Basin Plan. Identified requirements involve using a number of planning, design, operation, treatment, and enforcement measures to reduce pollutant discharges from individual development projects (and the municipal storm drain system as a whole) to the maximum extent practicable (MEP). Specifically, these measures include: (1) using jurisdictional planning efforts (such as discretionary general plan approvals) to provide water quality protection; (2) requiring coordination between individual jurisdictions to provide watershed-based water quality protection; (3) implementing applicable low impact development (LID), site design, source control, and treatment control BMPs to avoid, reduce and/or mitigate effects including increased

erosion and sedimentation, illicit discharges, hydromodification[1] and the discharge of pollutants in urban runoff; and (4) using appropriate monitoring, reporting, and enforcement efforts to ensure proper implementation, documentation, and (as appropriate) modification of permit requirements.

State

Porter- Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act; California Water Code, Division 7, Section 13000 et seq.) is the primary water quality control law for the State of California, and establishes a regulatory program to protect water quality and beneficial uses for State waters. The SWRCB and RWQCBs were established under the Porter-Cologne Act as the principle State agencies responsible for water quality control. The primary vehicle for implementing such control is the adoption of Water Quality Control Plans (basin plans), which include criteria from sources such as the Porter-Cologne Act and the State non-degradation Policy (SWRCB Resolution No. 68-16) to designate beneficial uses and associated water quality objectives for surface and groundwater resources.

San Francisco Bay Basin Water Quality Control Plan (Basin Plan)

The San Francisco Bay Region Basin Plan establishes a number of beneficial uses and water quality objectives for surface and groundwater resources. As outlined in the Basin Plan, beneficial uses "…define the resources, services, and qualities of…aquatic systems that are the ultimate goals of protecting and achieving high water quality…" and "…serve as a basis for establishing water quality objectives and discharge prohibitions." Identified existing and potential beneficial uses for the project site and applicable downstream waters (including South San Francisco Bay, Plummer Creek and the associated F-1 Channel) include: industrial service supply (IND); commercial and sport fishing (COMM); shellfish harvesting (SHELL); estuarine habitat (EST); fish migration (MIGR); preservation of rare and endangered species (RARE); fish spawning (SPWN); wildlife habitat (WILD); contact and non-contact water recreation (REC 1 and REC 2); and navigation (NAV).

Water quality objectives identified in the Basin Plan are based on established beneficial uses, and are "…designed to represent the maximum amount of pollutants that can remain in the water column without causing any adverse effect on organisms using the aquatic system as habitat, on people consuming those organisms or water, and on other current or potential beneficial uses…" Water quality objectives include both numeric and narrative standards, which together "…define the level of water quality that shall be maintained within the region…" and are "…achieved primarily through establishing and enforcing waste discharge requirements and by implementing this water quality control plan." Identified water quality objectives for surface and groundwater

[1] Hydromodification is defined in the Municipal Permit as the modification of a stream hydrograph, caused in general by increases in flows and durations that result when land is developed (e.g., made more impervious). The effects of hydromodification include, but are not limited to, increased bed and bank erosion, loss of habitat, increased sediment transport and deposition, and increased flooding.

resources encompass a number of pollutants, including sediment, biostimulatory substances, toxic pollutants (including metals), oil and grease, and bacteria.

Local

Alameda Countywide Clean Water Program

As noted above in Section 4.8.1, the City is a member agency of the ACCWP, which administers the NPDES Municipal Permit. As a member agency, the City is responsible for implementing and/or participating in applicable programs/efforts to provide permit conformance through its Storm Water Program, including watershed assessment, monitoring/reporting, public outreach, illicit discharge elimination, street sweeping, drainage facility inspection/maintenance, and enforcement. Specific information on conformance requirements under NPDES and related ACCWP storm water standards is provided in the ACCWP Stormwater Technical Guidance Manual, including post-construction site design, source control and treatment control BMPs (ACCWP 2013).

Alameda County Water District Groundwater Protection Act

The Alameda County Water District (ACWD) regulates groundwater extraction/disposal (dewatering) activities, as well as subsurface excavations or structures (e.g., foundation piles) that may affect groundwater resources, through the ACWD Groundwater Protection Act (Ordinance No. 2010-01, Resolution No. 10-066). Specifically, all applicable activities described in the Act are required to obtain a permit from the ACWD prior to the start of associated work, and to comply with all related conditions to protect groundwater resources.

City Municipal Code

Sections 8.36.01 through 8.36.350 of the City Municipal Code provide direction on storm water management and discharge control, including guidelines for pollutant discharge/reduction, watercourse protection, monitoring/inspection requirements, and enforcement, and program funding.

Under Section 15.40.51 of the City Municipal Code, the City has established flood elevation standards for sites within special flood hazard areas as defined by FEMA. Specifically, these standards include a requirement that building pads for all occupied structures are constructed at a minimum elevation of 11.25-feet elevation (NGVD), with the finished floor to be a minimum of six inches above the building pad. In addition, Section 16.08.06 of the Municipal Code requires that the top of curb grades for all residential streets within the City must be a minimum of 10 feet amsl.

Sections 15.50.-20 through 15.50.046 of the City Municipal Code provide direction on grading permit requirements including guidelines for drainage and erosion control.

Section 15.50.042 of the City Municipal Code requires the implementation of erosion control measures for manufactured slopes, including efforts such as landscaping, check dams, cribbing, riprap, or other devices. Additionally, Sections 15.50.044 through 15.50.046 of the Municipal

Code require inspection of grading operations by qualified engineering and/or City staff, and submittal of associated documentation to the City for review and approval.

City Stormwater Program

The City Stormwater Program provides guidance for NPDES and related regulatory conformance, including the Storm Drain Pollution Prevention Handout, which includes guidance for construction-related activities such as erosion control, hazardous material use/handling (e.g., fuels), demolition, roadway/paving operations, and general site maintenance (available at: (http://www.newark.org/images/uploads/pubwks/pdfs/BuildingInspection/B-67-StormDrainPollutionPrev.pdf).

4.8.3 Environmental Analysis

Significance Thresholds

The following significance thresholds derived from the Dumbarton TOD Specific Plan EIR and Appendix G of the State CEQA Guidelines are used in the evaluation of potential impacts from implementation of the proposed project. These thresholds are intended to ensure conformance with existing regulatory requirements related to applicable hydrology and water quality issues.

The proposed project would have a significant impact related to hydrology/water quality if it would:

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off site;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site;
- Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff;
- Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation;
- Place within a 100-year flood hazard area structures which could impede or redirect flood flows;
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including as a result of failure of a levee or dam; or inundation by seiche, tsunami or mudflow;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table (e.g., the production rate of preexisting wells would drop to a

level that would not support existing land uses or planned uses for which permits have been granted); or

- Violate any water quality standards or waste discharge requirements.

Based on analysis in the Dumbarton TOD Specific Plan EIR, impacts associated with the following threshold were determined not to be significant for the Specific Plan (including the proposed project site), and no further related analysis is provided below.

- Otherwise substantially degrade water quality.

Specifically, this threshold is not applicable to the proposed project based on fact that no additional water quality impacts, beyond those addressed in the thresholds listed above, would result from project implementation.

Summary of Findings from the Dumbarton TOD Specific Plan EIR

Potential impacts related to hydrology and water quality are discussed in Section 4.8 of the Dumbarton TOD Specific Plan EIR (RBF 2011). The EIR concluded that project implementation would result in potentially significant impacts related to: (1) drainage alteration and associated potential erosion/siltation; (2) drainage alteration and associated flooding; and (3) runoff generation and associated effects to storm drain system capacity and the discharge of pollutants. Associated mitigation (specifically, Mitigation Measure 4.8-4a) identified in the Dumbarton TOD Specific Plan EIR requires that all future plans submitted for grading permits include a detailed hydrology report to address potential project-related impacts and, if applicable, associated design/mitigation measures. With implementation of this measure, the Dumbarton TOD Specific Plan EIR concluded that all identified potentially significant hydrology and water quality impacts would be reduced below a level of significance. The project Drainage/Water Quality Technical Memorandum (and attachments) summarized herein and appended to the SEIR conforms to Mitigation Measure 4.8-4a, with associated site-specific conclusions and requirements outlined below.

It should also be noted that, in response to public review comments, the Dumbarton TOD Specific Plan Final EIR included mitigation requirements regarding the protection of existing groundwater wells from development and the potential effects to groundwater resources from construction-related operations (such as soil improvements or installation of subdrains related to liquefaction, refer to Section 4.5) or dewatering activities. The mitigation requirement for groundwater resource protection is addressed below, while the well protection requirement is evaluated in Section 4.7 due to the relationship between the on-site groundwater monitoring wells and off-site hazardous material remediation efforts.

Impact Analysis

<u>Drainage Alteration and Related Erosion/Siltation</u>

As described in Section 4.8.1, existing surface flows within the project site and the associated off-site roadway/drainage improvement areas drain generally west and south through the site to

the southwestern property corner. Historically, these flows entered an unnamed (off-site) tidal slough via an existing culvert and ultimately continued south and west to Plummer Creek and San Francisco Bay (with these flows currently prevented from leaving the site by the previously described sheet pile). Project implementation would result in some modification of the described existing on-site drainage patterns and directions through proposed grading and construction. As a result (and pursuant to Mitigation Measure 4.8-4a from the Dumbarton TOD Specific Plan EIR as noted above), a detailed hydrologic analysis was completed for the proposed project (CB&G 2015b). Specifically, as described in this analysis, project development would include a series of storm drain facilities to capture and convey applicable flows within and through the site, including catch basins, manholes, storm drain pipelines and two bioretention facilities, as well as replacement of the existing culvert at the southwestern site corner (refer to the *Preliminary Stormwater Control Plan* attachment to CB&G 2015b in Appendix I).

Water quality design flows would be conveyed to the bioretention basins for treatment and discharged into the proposed open space/wetland reserve in Parcel GGG (with additional information provided below under the discussion of water quality). Excess flows (i.e., flows exceeding the water quality design flow) would bypass the bioretention basins and be discharged directly into Parcel 'GGG,' with all associated outlets to be equipped with velocity dissipation devices to provide erosion control (e.g., riprap aprons). Storm water flows in Parcel 'GGG' would continue generally southwest (per the natural gradient) and discharge into the adjacent unnamed slough via a proposed new culvert (i.e., to replace the existing structure) equipped with a velocity dissipator as described (with some flows in Parcel 'GGG' also subject to natural infiltration and/or evapotranspiration by associated wetland vegetation). Flows from this culvert would continue south to Plummer Creek and eventually enter San Francisco Bay, consistent with historical drainage patterns/directions. In addition, the proposed on-site storm drain system includes separate facilities to convey treated storm water flows from adjacent (upstream) properties in the Specific Plan area. These flows would discharge directly into Parcel 'GGG' via a separate outlet (equipped with a velocity dissipator as described), and continue to the proposed new culvert at the southwestern site corner for off-site discharge as previously noted. The described modifications from project implementation would not substantially alter the overall existing on- and off-site drainage patterns. That is, flows generated within the site and applicable off-site areas would continue to drain primarily west and south to the southwestern site corner, before ultimately draining to Plummer Creek and San Francisco Bay (similar to historic drainage patterns). Based on the described conditions, project-related impacts to drainage alteration, including associated erosion and siltation effects, would be less than significant (with additional information on potential erosion concerns provided below under the discussion of water quality).

Drainage Alteration and Related Runoff Generation, Flooding and Storm Drain Capacity

As described above and pursuant to the project Drainage/Water Quality Technical Memorandum (CB&G 2015b), drainage modifications from project implementation would not substantially alter the overall existing on- and off-site drainage patterns, and the proposed design includes a storm drain system to capture and convey associated flows within and through the site. This system would be designed in accordance with applicable City and ACFC standards related to storm drain facility function and capacity (CB&G 2015b). Specifically, the proposed storm

drain system would be designed to accommodate a 15-year storm event, pursuant to associated ACFC and City requirements related to watershed size and flow projections (CB&G 2015c). Based on these criteria and the proposed project design (including the construction of approximately 24 acres of additional impervious surfaces on site), calculated flows for a 15-year storm event within the site would increase from the existing rate of approximately 24.2 cubic feet per second (cfs) to approximately 53.4 cfs (CB&G 2015b). The proposed storm drain system would accommodate these flows as noted, with storm drainage conveyed within and through the site and discharged into on- and off-site open space/wetland areas. Based on the described considerations and the project site location at the bottom of the Plummer Creek watershed (as described in Section 4.8.1), the project Drainage/Water Quality Technical Memorandum concludes that the proposed storm drain system would accommodate calculated post-development flows and associated detention is not required (with this conclusion consistent with related analysis in the Specific Plan EIR).

Pursuant to requirements in the NPDES Municipal Stormwater Permit, the project Drainage/Water Quality Technical Memo also includes an evaluation of potential hydromodification effects. This analysis concludes that the proposed project is exempt from NPDES Permit hydromodification requirements, because the site is within a tidally influenced zone (CB&G 2015b).

Based on the described hydrologic conditions and proposed storm drain system design, potential impacts from project implementation related to runoff generation and associated drainage system capacity, flooding hazards and hydromodification effects would be less than significant.

FEMA Flood-related Hazards

As described above in Section 4.8.1 and in the Dumbarton TOD Specific Plan EIR, the project site includes areas within a mapped FEMA 100-year tidal flood zone. The proposed project would entail the placement of housing and other facilities (e.g., fill pads, streets and parks) within these areas that could potentially result in associated flood-related hazards and/or impede/redirect flood flows (refer to the *FEMA Flood Map* attachment to CB&G 2015b in Appendix I). The project Drainage/Water Quality Technical Memorandum includes an analysis of potential flood hazards and effects to flood flows from implementation of the proposed project, and provides the following associated conclusions:

Portions of the project site are within a mapped FEMA 100-year Flood Hazard AE Zone with a base flood elevation of 11 feet (NAVD 88) (or 8.24 feet NGVD 29). The proposed project design conforms with associated applicable City requirements for flood hazards, which require that: (1) building pads for all occupied structures within the noted AE Zone have a minimum elevation of 11.25 feet (NGVD 29); (2) finished floor elevations for occupied structures within the noted AE Zone are a minimum of six inches above the building pad elevation; and (3) the top of curb grades for new residential streets within the noted AE Zone exhibit a minimum elevation of 10 feet (NGVD 29). Based on the noted requirements and related project design conformance, the drainage/water quality analysis concludes that all developed portions of the project site would be elevated above the mapped 100-year floodplain (CB&G 2015b).

While the proposed design would place structures and facilities within the mapped on-site 100-year floodplain as noted, project implementation would not notably impede or redirect flood flows based on the following considerations: (1) an average of one foot of fill placement is assumed across the project site to elevate all applicable areas above the 100-year storm base flood level (with this assumption considered conservative based on the fact that portions of the site are outside of the 100-year floodplain and roughly 25 percent of the site would remain as open space with no fill placement); (2) the described one-foot average fill placement within the site equates to approximately 2.2 million cubic feet of fill within the project site; (3) based on a mapped floodplain area of approximately 2.5 square miles within the associated floodplain map (FEMA 2009, refer to Figure 4.8-2), the resulting change in floodplain elevation for the noted 2.5-square mile area would be approximately 0.03 foot (or 0.4 inch); and (4) applying the described fill placement calculation to the floodplain as a whole (i.e., including related mapped floodplain areas on all applicable FEMA maps), the associated change in floodplain elevation would be on the order of thousandths of a foot (or less than 0.1 inch, CB&G 2015b, 2015c).

Based on the above considerations, and consistent with the related analysis in Section 4.8 of the Dumbarton TOD Specific Plan EIR, potential impacts from project implementation associated with FEMA-related flood hazards would be less than significant.

Flood Hazards Related to Dam Inundation, Seiche, Tsunami and Mudflow

Pursuant to related discussions in Section 4.8 of the Dumbarton TOD Specific Plan EIR, potential impacts from project implementation associated with flood hazards from dam inundation, seiches, tsunamis or mudflows would be less than significant, as summarized below.

Dam Inundation Hazards

The analysis in Section 4.8 of the Specific Plan EIR notes that the Specific plan area (including the proposed project site) would be subject to inundation if any of the dam structures associated with three upstream reservoirs (Del Valle, James H. Turner, or Calaveras) experienced a catastrophic failure. The analysis concludes, however, that associated potential impacts would be less than significant based on the following considerations: (1) all applicable dam structures (including the identified upstream dams) are subject to rigorous design, construction and inspection criteria under California Division of Safety of Dams regulations; and (2) the Calaveras Dam is currently undergoing an extensive reconstruction/replacement effort to address geologic concerns identified in 2012. The resultant new dam structure was approximately 66 percent complete in December 2014, and has been designed to accommodate a maximum credible earthquake (the largest event considered capable of occurring) along the Calaveras Fault (San Francisco Public Utilities Commission 2015).

Tsunami, Seiche and Mudflow Hazards

Tsunamis are seismic sea waves that can generate impacts related to inundation in coastal zones, and are most commonly associated with submarine earthquake or volcanic events. Consistent with the analysis in Section 4.8 of the Specific Plan EIR, tsunami-related impacts associated with the proposed project would be less than significant based on the following considerations: (1) the

potential for tsunami hazards at the project site is considered low due to the site location at the southernmost portion of San Francisco Bay, the existing on-site elevations of approximately 4 to 9 feet AMSL, and the fact that the largest recorded tsunami in San Francisco Bay (1964) exhibited a height of approximately 3.7 feet at the Presidio (i.e., near the Bay inlet); (2) the Association of Bay Area Governments (ABAG) does not identify Alameda County as a high risk area for tsunami hazards (RBF 2011); (3) the project site is not within a tsunami inundation zone, as mapped by the California Department of Conservation (CDC, 2009); and (4) as previously described, building pads for all occupied structures would have a minimum elevation of 11.25 feet (NGVD 29).

Seiches are defined as wave-like oscillatory movements in enclosed or semi-enclosed bodies of water such as lakes or bays, and are most typically associated with seismic activity. Seiches can result in flooding damage and related effects (e.g., erosion) in surrounding areas from spilling or sloshing water. Consistent with the analysis in Section 4.8 of the Specific Plan EIR, seiche-related impacts associated with the proposed project would be less than significant based on the site location in the southernmost portion of San Francisco Bay, and the presence of intervening facilities such as salt ponds and levees that would diminish seiche-generated waves.

With respect to potential mudflow-related hazards, the analysis in Section 4.8 of the Specific Plan EIR notes that the Specific Plan area and vicinity (including the project site) are generally level and not susceptible to mudslides (with the closest substantial topography located approximately 6.25 miles to the northeast), and are not within or near an landslide or debris flow hazard area as mapped by the ABAG (RBF 2011).

Groundwater Resources

As described in Section 4.8 of the Specific Plan EIR, development in the Specific Plan area (including the proposed project) would not directly withdraw groundwater, but would obtain water from the ACWD, which uses local groundwater as a secondary water source. The ACWD prepared a Water Supply Assessment (WSA) for the proposed Specific Plan, to evaluate associated water needs and determine if the ACWD supplies, including local ground water would be adequate for the Specific Plan (along with other current and future demands). Consistent with the conclusions in the WSA and Section 4.8 of the Specific Plan EIR, potential impacts to groundwater supplies from implementation of the proposed project would be less than significant, based on the following considerations: (1) water demands associated with the proposed project (and the Specific Plan) are consistent with planning assumptions identified in the ACWD Urban Water Management Plan, and are included in the associated forecasts and water supply planning; (2) projected ACWD water supply forecasts for normal precipitation year conditions would be adequate to meet service area demands, including the proposed project (and Specific Plan); (3) projected ACWD water supply forecasts for critical drought year conditions could result in shortages relative to projected demand, although the ACWD would (if necessary) implement a drought contingency plan under such a scenario, with associated water use reductions implemented at appropriate levels to ensure adequate supplies; and (4) because the majority of the ACWD water supply is derived from sources other than groundwater (e.g., the State Water Project), the overall effect to groundwater supplies from Specific Plan

implementation (including the proposed project) would be relatively minor, even under drought conditions (RBF 2011).

As described above and in Section 4.5 of this EIR, shallow groundwater is present on site and may be encountered during project site development. Pursuant to geotechnical investigation conducted for the proposed project, however, most developed areas would be subject to fill placement, rather than subsurface excavation, with associated short-term dewatering requirements to be limited primarily to areas of deeper utility trenching (BSA 2014, 2013). Project-related development could also potentially affect local groundwater resources through the use of subsurface measures to address identified liquefaction hazards, such as the installation of subdrains or piles, and implementation of efforts such as soil vibrocompaction, grouting and deep mixing (refer to Section 4.5 for additional discussion). All proposed dewatering and subsurface activities (as described) associated with the proposed project would be subject to the ACWD Groundwater Protection Act (Ordinance No, 2010-01), as outlined above in Section 4.8.2.3. Because the exact nature, location and extent of dewatering and liquefaction remediation activities within the site are not currently known, however, associated potential impacts to groundwater resources are considered significant. Accordingly, associated mitigation is identified below in Section 4.8.4 to verify that applicable regulatory requirements are incorporated into the design and construction of the proposed project, and potentially significant impacts to groundwater resources are avoided.

As outlined in Section 4.8 of the Specific Plan EIR, the addition of substantial areas of impervious surfaces can potentially affect local groundwater recharge capacity by reducing the area available for infiltration/recharge. Consistent with the Specific Plan EIR analysis, however, potential impacts to groundwater recharge capacity from implementation of the proposed project would be less than significant based on the following considerations: (1) the primary source of recharge for the Niles Cone Groundwater Basin is the Alameda Creek Watershed, which would not be affected by the proposed project; and (2) the proposed project design includes substantial natural open space (approximately 25 percent of the site), as well as the use of unlined drainage facilities (bioretention basins), parks, trails and landscaping, all of which would encompass pervious surfaces and contribute to on-site groundwater recharge capability.

Water Quality

Potential water quality impacts from project implementation are associated with both short-term construction activities and long-term operation and maintenance. Specifically, potential short-term effects are related to erosion and off-site sediment transport (sedimentation), the use and storage of construction-related hazardous materials (e.g., fuels and lubricants), the demolition of existing structures and facilities, and the extraction/disposal of shallow groundwater if required. Potential long-term water quality effects are associated with the generation of urban contaminants from sources such as vehicular use and landscape maintenance (e.g., chemical pesticides/fertilizers and vegetation debris).

The proposed project does not involve activities that would result in direct potential impacts to groundwater quality, such as the use of septic systems or underground storage of hazardous materials (e.g., fuel tanks). Accordingly, project-related activities that could potentially affect

groundwater quality are limited to the percolation of surface runoff and associated pollutants, with the following assessment of potential water quality impacts therefore applicable to both surface and groundwater resources.

Short-term Water Quality Impacts

Erosion and Sedimentation. Proposed excavation, grading and construction activities could potentially result in related erosion and sedimentation. Development activities would involve the removal of surface stabilizing features such as vegetation, excavation of existing compacted materials from cut areas, redeposition of excavated (and/or imported) material as fill in proposed development sites, and potential erosion from disposal of extracted groundwater (if required). Project-related erosion could result in the influx of sediment into downstream receiving waters (including impaired segments of San Francisco Bay), with associated water quality effects such as turbidity and transport of other pollutants that tend to adhere to sediment particles.

While graded, excavated and filled areas associated with construction activities would be stabilized through efforts such as compaction and installation of hardscape and landscaping, erosion potential would be higher in the short-term than for existing conditions. Developed areas would be especially susceptible to erosion between the beginning of grading/construction and the installation of pavement or establishment of permanent cover in landscaped areas. Erosion and sedimentation are not considered to be significant long-term concerns for the proposed project, as developed areas would be stabilized through installation of hardscape or landscaping as noted. The project would also incorporate long-term water quality controls pursuant to ACCWP/City and NPDES guidelines, including (among other efforts) measures that would avoid or reduce off-site sediment transport. This would involve efforts such as the use of bioretention basins, energy dissipators, irrigation controls and drainage facility maintenance (i.e., to remove accumulated sediment). Additional discussion of long-term water quality controls is provided below under the discussion of *Operational Pollutants*.

Short-term (construction) water quality effects from project-related erosion and sedimentation could potentially affect downstream waters and associated wildlife habitats. These potential impacts would be addressed through conformance with the NPDES Construction General Permit and associated ACCWP/City storm water standards, as described above in Section 4.8.2. This would include implementing an authorized SWPPP for proposed construction, including (but not limited to) erosion and sedimentation BMPs. While specific BMPs would be determined during the SWPPP process based on regulatory criteria and site characteristics (soils, slopes, etc.), they would likely include standard industry measures and guidelines from the NPDES Construction General Permit and ACCWP/City standards, as well as the additional sources identified above in Section 4.8.2. A summary of anticipated erosion and sedimentation BMPs that would be applicable to the proposed project is provided below. Consistent with the related analysis in Section 4.8 of the Specific Plan EIR, implementation of appropriate erosion and sediment control BMPs as part of (and in conformance with) the project SWPPP and related requirements would reduce associated potential erosion/sedimentation impacts below a level of significance. Erosion and sedimentation controls implemented for the proposed project would be further defined

during the NPDES/SWPPP process, with the resulting BMPs taking priority over the more general types of standard industry measures listed below.

- Comply with seasonal grading restrictions during the rainy season for applicable locations/conditions.
- Prepare and implement a CSMP to ensure appropriate monitoring, testing, BMP effectiveness, and conformance with applicable discharge requirements.
- Prepare and implement a REAP, if applicable (i.e., depending on risk level), to ensure that active construction areas/activities have adequate erosion and sediment controls in place 48 hours prior to the onset of any likely precipitation event (i.e., 50 percent or greater probability of producing precipitation, per National Oceanic and Atmospheric Administration projections).
- Preserve existing vegetation wherever feasible, and use phased grading schedules to limit the area subject to erosion at any given time.
- Properly manage storm water and non-storm water flows to minimize runoff.
- Use erosion control/stabilizing measures such as geotextiles, mulching, mats, plastic sheets/tarps, fiber rolls, soil binders, compost blankets, soil roughening and/or temporary hydroseeding (or other plantings).
- Use sediment controls to protect the construction site perimeter and prevent off-site sediment transport, including measures such as temporary inlet filters, silt fence, fiber rolls, silt dikes, biofilter bags, gravel bag berms, compost bags/berms, temporary sediment basins, check dams, street sweeping/vacuuming, ATS (if applicable based on risk assessment), energy dissipators, stabilized construction access points/sediment stockpiles, and properly fitted covers for sediment transport vehicles.
- Store BMP materials in applicable on-site areas to provide "standby" capacity adequate to provide complete protection of exposed areas and prevent off-site sediment transport.
- Provide full erosion control for disturbed areas and material stockpiles not scheduled for additional activity for 14 or more consecutive calendar days.
- Provide appropriate training, including emergency preparedness training, for the personnel responsible for BMP installation and maintenance.
- Use solid waste management efforts such as proper containment and disposal of construction trash and debris.
- Comply with local dust control requirements, potentially including measures such as regular watering, use of chemical palliatives, limiting construction vehicle/equipment speeds and restricting/precluding construction operations during periods of high wind speeds.
- Install permanent landscaping as soon as feasible during or after construction.

- Implement appropriate monitoring and maintenance efforts (e.g., prior to and after storm events) to ensure proper BMP function and efficiency.
- Implement sampling/analysis, monitoring/reporting and post-construction management programs per NPDES and/or ACCWP/City requirements.
- Implement additional BMPs as necessary to ensure adequate erosion and sediment control (e.g., enhanced treatment and more detailed monitoring/reporting).

Construction-related Hazardous Materials

Construction related to the proposed project would involve the use and/or storage of hazardous materials such as fuels, lubricants, solvents, concrete, paint, trash, debris and portable septic system wastes. The accidental discharge of such materials during construction could potentially result in significant impacts if these pollutants reach downstream receiving waters, particularly materials such as petroleum compounds that are potentially toxic to aquatic species in low concentrations. Implementation of a SWPPP would be required under NPDES and ACCWP/City guidelines as previously noted, and would include specific measures to avoid or reduce potential impacts related to the use and potential discharge of construction-related hazardous materials. While detailed BMPs would be determined as part of the NPDES/SWPPP process based on regulatory criteria and project-specific parameters, they are likely to include the standard industry measures and guidelines from the NPDES Construction General Permit and ACCWP/City standards, as well as the additional sources identified above in Section 4.8.2. A summary of anticipated construction-related hazardous material BMPs that would be applicable to the project is provided below. Consistent with the related analysis in Section 4.8 of the Specific Plan EIR, based on implementation of appropriate hazardous material BMPs as part of (and in conformance with) the SWPPP and related requirements, associated impacts would be less than significant. Construction-related hazardous material controls implemented for the proposed project would be further defined during the NPDES/SWPPP process, with the resulting BMPs taking priority over the more general types of standard industry measures provided below.

- Minimize the amount of hazardous materials used and stored on site, and restrict storage/use locations to areas at least 50 feet from storm drains and surface waters.
- Use raised (e.g., on pallets), covered and/or enclosed storage facilities for all hazardous materials.
- Maintain accurate and up-to-date written inventories and labels for all stored hazardous materials.
- Use berms, ditches, impervious liners and/or other applicable methods in material storage and vehicle/equipment maintenance and fueling areas, to provide a containment volume of 1.5 times the volume of stored/used materials and prevent discharge in the event of a spill.

- Place warning signs in areas of hazardous material use or storage and along drainages and storm drains (or other appropriate locations) to avoid inadvertent hazardous material disposal.
- Properly maintain all construction equipment and vehicles.
- Restrict paving operations during wet weather, use appropriate sediment control devices/methods downstream of paving activities, and properly contain and dispose of wastes and/or slurry from sources including concrete, dry wall and paint, by using properly designed and contained washout areas.
- Provide training for applicable employees in the proper use, handling and disposal of hazardous materials, as well as appropriate action to take in the event of a spill.
- Store absorbent and clean-up materials in readily accessible on-site locations.
- Properly locate, maintain and contain portable wastewater facilities.
- Regularly (at least weekly) monitor and maintain hazardous material use/storage facilities and operations to ensure proper working order.
- Implement solid waste management efforts such as proper containment and disposal of construction trash and debris, and restrict associated storage areas to appropriate locations at least 50 feet from storm drain inlets and water courses.
- Employ a licensed waste disposal operator to regularly (at least weekly) remove and dispose of construction trash and debris at an authorized off-site location.
- Use recycled or less hazardous materials wherever feasible.
- Post regulatory agency telephone numbers and a summary guide of clean-up procedures in a conspicuous on-site location.
- Implement additional BMPs as necessary (and in conformance with applicable requirements) to ensure adequate hazardous material control.

Demolition-related Debris Generation

The proposed project would involve the demolition of existing on-site facilities including structures and pavement. These activities would generate variable amounts of construction debris, potentially including concrete, asphalt, glass, metal, drywall, paint, insulation, fabric and wood. Demolition activities could also potentially generate particulates, as well as pollutants related to hazardous materials including lead-based paint and asbestos insulation (if present). The introduction of demolition-related particulates or hazardous material pollutants into local drainages or storm drain systems could potentially result in downstream water quality impacts.

Project construction would be subject to a number of regulatory controls related to demolition, including the previously noted NPDES/SWPPP requirements, and hazardous materials controls as described in Section 4.7 of this EIR. The project SWPPP would include measures to address

potential effects associated with pollutant generation from demolition activities, with detailed requirements to be determined as part of the SWPPP process. A number of standard BMPs that would likely be applicable to project demolition efforts are provided below. Consistent with the related analysis in Section 4.8 of the Specific Plan EIR, implementation of appropriate demolition BMPs as part of (and in conformance with) the SWPPP and related requirements would reduce associated impacts below a level of significance. Construction-related demolition controls implemented for the proposed project would be further defined during the NPDES/ SWPPP process, with the resulting BMPs taking priority over the more general types of standard industry measures provided below:

- Recycle appropriate (i.e., non-hazardous) construction debris for on- or off-site use whenever feasible.
- Use dust-control measures such as watering to reduce particulate generation for pertinent locations/activities (e.g., concrete removal).
- Use appropriate erosion prevention and sediment control measures downstream of all demolition activities.
- Conform with applicable requirements related to the removal, handling, transport and disposal of hazardous materials generated during demolition, potentially including efforts such as appropriate sampling and monitoring procedures; proper containment of contaminated materials during construction; provision of protective gear for workers handling contaminated materials; and safe and appropriate handling, transport and disposal of hazardous materials generated during project construction.

Disposal of Extracted Groundwater

Shallow groundwater may be encountered during project-related excavation and construction, as previously described. Disposal of groundwater extracted during construction activities could potentially generate significant water quality impacts through erosion/sedimentation (as previously described), as well as the possible occurrence of pollutants in local groundwater aquifers. Specifically, as described above in Section 4.8.1, while on-site groundwater monitoring associated with adjacent hazardous material remediation efforts has not identified pollutant levels at or above associated reporting levels, trace amounts of pollutants (VOCs) have been observed. Project construction would require conformance with the ACWD Groundwater Protection Act as previously described, as well as applicable RWQCB/SWRCB waste discharge requirements related to water quality concerns. Based on the potential occurrence of pollutants in local groundwater, as well as the fact that the exact nature, location and extent of dewatering activities within the site are not currently known, however, potential water quality impacts from the disposal of extracted groundwater are considered significant. Accordingly, associated mitigation is identified below in Section 4.8.4 to verify that applicable regulatory requirements related to dewatering are incorporated into the design and construction of the proposed project, and associated potentially significant water quality impacts are avoided.

Operational Pollutants

Implementation and long-term operation of the proposed project development would entail the generation of urban pollutants, potentially including sediment, nutrients, trash and debris, oxygen demanding substances, oil and grease, bacteria and viruses, and pesticides. These types of urban pollutants accumulate in areas such as streets, parking areas and drainage facilities, and are picked up in runoff during storm events. Pollutant loading is typically higher during initial storm runoff generation (i.e., the "first flush"), and contaminant loading is generally higher during the first storm event of the rainy season due to the accumulation of contaminants during the drier months. As previously described, runoff within the project site would increase as a result of constructing impervious surfaces, with a corresponding increase in pollutant loading potential. Based on these conditions, long-term project operation could result in the on- and off-site transport of associated pollutants, with associated effects such as increased turbidity, oxygen depletion and toxicity to attendant species in downstream receiving waters.

The proposed project would conform to applicable ACCWP/City and NPDES storm water standards, with such conformance to include the use of appropriate post-construction site design, source control and treatment control BMPs, including LID measures. The LID process employs design practices and techniques to effectively capture, filter, store, evaporate, detain and infiltrate runoff close to its source. Applicable site design, source control and treatment control BMPs identified for the proposed project, pursuant to the project Drainage/Water Quality Technical Memorandum (CB&G 2015b) and the ACCWP/City and NPDES standards outlined in Section 4.8.2, are outlined below.

Site Design BMPs – Site design BMPs are intended to avoid, minimize and/or control post-development runoff, erosion potential and pollutant generation to the MEP by mimicking the natural hydrologic regime. Specific site design BMPs incorporated into the proposed project design include: (1) maximizing the retention of natural open space; (2) limiting paved streets and driveways to the minimum area necessary to meet regulatory criteria and ensure safety; (3) using permeable surfaces in applicable areas wherever feasible (e.g., trails); (4) incorporating natural and pervious areas into the on-site drainage system wherever feasible to allow natural infiltration and groundwater recharge (e.g., proposed bioretention facilities, natural open space in Parcel GGG, and landscaping); and (5) installing energy dissipators at all applicable outlet points to reduce flow velocities and associated erosion potential.

Source Control BMPs – Source control BMPs are intended to avoid or minimize the introduction of pollutants into storm drains and natural drainages to the MEP by reducing on-site pollutant generation and off-site pollutant transport. Potential source control BMPs applicable to the proposed project include: (1) installing "no dumping" stencils/tiles and/or signs with prohibitive language at applicable locations (e.g., storm drain inlets) to discourage illegal dumping; (2) designing trash storage areas in applicable locations (e.g., multi-family residential and common areas) to include impervious surfaces and attached lids and/or roofs; (3) implementing regular street sweeping and drainage facility maintenance in applicable areas per ACCWP/City requirements; (4) using efficient irrigation systems (e.g., appropriate water schedules and rain/pressure-sensitive shutoff devices) to reduce associated water use and runoff; (5) minimizing applications of chemical pesticides, herbicides and fertilizers; and (6) providing

informational and educational materials to homeowners regarding issues such as the proper use of pesticides, fertilizers and other non-landscaping chemical uses (e.g., detergents).

Treatment Control BMPs – Treatment control (or structural) BMPs are designed to remove pollutants from urban runoff to the MEP through means such as filtering, treatment or infiltration. Pursuant to City Stormwater Program requirements, the project Drainage/Water Quality Technical Memorandum evaluated the feasibility of using rain water harvesting/reuse, infiltration and evapotranspiration to provide water quality treatment. This analysis confirmed that these types of measures are infeasible for the proposed project, and that the use of bioretention is appropriate as the primary storm water quality treatment measure (CB&G 2015b). Accordingly, treatment control BMPs identified for the proposed project include the use of two LID bioretention basins to treat runoff from water quality design flows prior to discharge into the proposed open space/wetland reserve in Parcel GGG. The proposed bioretention facilities would utilize a system of sump pumps to move flows through the bioretention system accordingly, with a minimum of three appropriately sized pumps to be used at each bioretention site to provide appropriate system backup/redundancy (with each pump capable of independently operating the associated bioretention system). The pumps would be placed in individual wet wells with separate power sources, and would be equipped with alarms to notify maintenance personnel in the event of pump failure (refer to the *Conceptual Bioretention Plan* attachment to CB&G 2015b in Appendix I).

Post-construction BMP Monitoring/Maintenance Schedules and Responsibilities – Identified potential BMPs include design elements and educational programs, as well as physical facilities such as bioretention facilities that require ongoing monitoring and maintenance. Accordingly, monitoring and maintenance efforts for all applicable BMPs would be implemented by the project owner(s) through (for example) homeowners' associations and/or maintenance agreements with the ACCWP/City. Specific monitoring and maintenance requirements associated with proposed BMP facilities and programs typically include funding (e.g., through a cash deposit or letter of credit), preparation of a monitoring/maintenance plan (per ACCWP/City requirements), monitoring and reporting to document that programs/activities are being implemented as designed, scheduled inspection and maintenance of physical facilities, and conducting as-needed modifications/repairs to ensure that intended BMP functions and regulatory requirements are being met.

Based on the above analysis and consistent with the related discussion in Section 4.8 of the Specific Plan EIR, potential impacts from project implementation associated with operational water quality would be less than significant.

4.8.4 Level of Significance Before Mitigation

Prior to mitigation, implementation of the proposed project would result in significant potential impacts to local groundwater resources associated with the use of subsurface measures to address identified liquefaction hazards (e.g., the installation of subdrains or piles, and implementation of efforts such as soil vibrocompaction, grouting and deep mixing), as well as water quality concerns related to the discharge of extracted groundwater (if required).

4.8.5 Mitigation Measures

Section 4.8 of the Dumbarton TOD Specific Plan EIR identified MM 4.8-4a to address identified potentially significant hydrology impacts within the Specific Plan area in the form of requiring detailed hydrology studies for all proposed development within the Specific Plan area. While this requirement has been met through the described project-specific Drainage/Water Quality Technical Memorandum (CB&G 2015b), additional project-specific requirements are identified below to supplement the Specific Plan EIR mitigation and address potential impacts related to the protection of groundwater resources and water quality effects from the disposal of extracted groundwater.

An additional mitigation measure identified for hydrology/water quality in the Specific Plan EIR (MM 4.8-4b) is related to storm drain lines crossing the Hetch Hetchy Pipeline corridor (not part of the proposed project), and is thus not applicable to the current analyses.

Project-Specific Mitigation Measures

MM HYD-1: All project dewatering operations, subsurface activities related to on-site remediation of liquefaction hazards (e.g., the installation of subdrains or piles, and implementation of efforts such as soil vibrocompaction, grouting and deep mixing), and other pertinent activities, shall conform with applicable related requirements in the ACWD Groundwater Protection Act (Ordinance No. 2010-01). Specifically, the project applicant (or a designated representative of the applicant) shall provide written verification to the City that all applicable requirements related to dewatering operations and subsurface activities (as described) have been implemented to the satisfaction of the ACWD.

MM HYD-2 All project-related groundwater extraction disposal operations shall conform with applicable waste discharge requirements issued by the RWQCB for disposal of extracted groundwater (if such waste discharge requirements are issued by the RWQCB). Specifically, the project applicant (or a designated representative of the applicant) shall consult with the RWQCB prior to implementing on-site dewatering activities to determine if such waste discharge requirements are required, and shall provide written verification to the City that either: (1) no waste discharge requirements related to project dewatering are required by the RWQCB; or (2) all applicable requirements related to dewatering operations have been implemented to the satisfaction of the RWQCB.

4.8.6 Level of Significance After Mitigation

Based on the implementation of all project design features and the mitigation measures described in this section, all identified potential impacts related to hydrology and water quality would be avoided or reduced below a level of significance.

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4.9 NOISE

This section of the SEIR describes the existing noise environment within the project site and applicable off-site areas, identifies pertinent regulatory requirements associated with noise-related issues, evaluates potential noise and vibration impacts and identifies mitigation measures related to implementation of the proposed project. An Acoustical Technical Report has also been prepared for the proposed project (HELIX 2015f), and the complete report is included as Appendix J of this SEIR. The Acoustical Technical Report was prepared based on the Gateway Station West Transportation Evaluation (Fehr & Peers 2014), the Update Memorandum for the Gateway Station West Transportation Analysis (Fehr & Peers 2015), and the traffic analysis for the Dumbarton TOD Specific Plan (RBF 2011).

4.9.1 Environmental Setting

Fundamentals of Noise and Vibration

Sound, Noise and Acoustics

Sound is described in a logarithmic scale referred to as decibels (dB), with the minimum threshold of audible sound for a healthy human ear at approximately 0 dB. To reflect the audible frequency range and response of the human ear, sound levels are typically expressed as an "A-weighted" scale (expressed in units of dBA), with dBA levels for various noise sources summarized in Table 4.9-1, *Typical A-weighted Noise Levels.*

A doubling of sound energy results in a 3-dB increase in sound. The subjective human perception of a doubling of loudness, however, will usually be different than what is measured with precise instrumentation. In typical noisy environments, changes in noise of 1 to 2 dB are generally not perceptible, although it is widely accepted that people begin to detect sound level increases of 3 dB in typical noisy environments. In addition, a 5-dB increase is generally perceived as distinctly noticeable. Accordingly, a doubling of sound energy (e.g., doubling the volume of traffic on a highway) that would result in a 3-dB increase in sound would generally be perceived as barely detectable by the human ear.

When sound propagates over a distance, it changes in level and frequency content, with sound levels attenuating (or decreasing) over distance. Depending on the nature of the source, sound levels typically attenuate at a rate of approximately 3 to 6 dB for each doubling of distance. These general attenuation rates do not reflect conditions such as the nature of the ground surface (e.g., vegetated versus paved), topography or other obstructions which can also affect sound levels.

Table 4.9-1
TYPICAL A-WEIGHTED NOISE LEVELS

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	— 110 —	Rock band
Jet fly-over at 1,000 feet		
	— 100 —	
Gas lawn mower at 3 feet		
	— 90 —	
Diesel truck at 50 feet at 50 miles per hour (mph)		Food blender at 3 feet
	— 80 —	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower, 100 feet	**— 70 —**	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	**— 60 —**	
		Large business office
Quiet urban daytime	**— 50 —**	Dishwasher next room
Quiet urban nighttime	**— 40 —**	Theater, large conference room (background)
Quiet suburban nighttime		
	— 30 —	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	— 20 —	
		Broadcast/recording studio
	— 10 —	
Lowest threshold of human hearing	**— 0 —**	Lowest threshold of human hearing

Source: Caltrans 2009

Noise in the daily human environment fluctuates over time, with such fluctuations influenced by conditions such as: (1) whether noise levels occur in regular or random patterns; (2) if noise level fluctuations are rapid or slow; and (3) if noise levels vary widely or are relatively constant. Various noise descriptors have been developed to describe time-varying noise levels, with the following noise descriptors most commonly used in transportation noise analysis (and additional descriptors and related discussion provided in Appendix J).

Equivalent Sound Level (LEQ)

L_{EQ} represents an average of the sound energy occurring over a specified period. In effect, L_{EQ} is the steady-state sound level containing the same acoustical energy as the time-varying sound that actually occurs during the same period. The one-hour A-weighted equivalent sound level (L_{EQ}[h]), for example, is the energy average of A-weighted sound levels occurring during a one-hour period.

Community Noise Equivalent Level (CNEL)

CNEL is the energy average of the A-weighted sound levels occurring over a 24-hour period, with a 10-dB penalty applied to A-weighted sound levels occurring during the nighttime hours (10 p.m. to 7 a.m.), and a 5-dB penalty applied to the A-weighted sound levels occurring during the evening hours (7 p.m. to 10 p.m.).

Vibration

Vibration is defined as any oscillatory motion induced in a structure or mechanical device as a direct result of some type of energy input. Sources of ground-borne vibrations can include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves or landslides) and human activities (e.g., trains, traffic or construction equipment/operations). Most perceptible indoor vibration is caused by sources within buildings, such as operation of mechanical equipment, movement of people, or slamming of doors. Typical outdoor sources of perceptible ground-borne vibration include construction equipment, steel-wheeled trains, and traffic on rough roads (with vibration from traffic on smooth roadways rarely perceptible). Ambient and source vibration information is expressed in various terms, including: (1) peak particle velocity (PPV), expressed in inches per second (in/sec or ips), for physical vibration effects to structures; (2) root mean square (RMS), which is the average of the squared amplitude of the signal in decibels (with a decibel reference value of 1 micro-inch per second), for vibration effects to humans and human activities; and (3) vibration decibels (VdB), which are derived from RMS and reflect the maximum vibration level for a single event (with additional discussion provided below under Regulatory Setting and in Appendix J). The background vibration level in residential areas is typically 50 VdB or less, which is well below the level perceptible by humans (i.e., approximately 65 VdB).

Existing Noise and Vibration Environment

Existing Noise and Vibration Sources

Streets immediately adjacent to the proposed project site include Enterprise Drive north of the site, a two-lane roadway that terminates just northeast of the site with a posted 45 mph speed limit, and Hickory Street, a currently inaccessible unpaved roadway located to the east of the project site. Hickory Street does not currently have any daily traffic as it is not an operational roadway, and Enterprise Drive has very minor, if any, daily traffic; no existing trips were reported for this segment in Figure 4.14-5 of the Dumbarton TOD Specific Plan EIR.

In addition to these nearby streets, the solar salt ponds (located immediately west of the proposed project site) have associated access roads located immediately adjacent to the western and southern perimeters of the project site. Salt is harvested approximately once per year over a 7 to 14 day period; during this time, there are as many as 200 truck trips per day (round trips), occurring 24 hours per day, transporting salt, which generates noise in the project vicinity.

The nearest airports to the proposed project site are the Palo Alto general aviation airport located 6 miles southwest of the site and the Hayward Executive Airport located 10 miles to the north. The San Jose International Airport is 13 miles southeast of the project site. At these distances, no noise effects related to airports would be expected at the project site.

The Union Pacific Railroad/Dumbarton Railway corridor located approximately 560 feet north of the site (at the closest project boundary) is not currently in use but it is planned to be active in the future. There is also a passenger railroad line in use approximately one mile east of the site. At present, however, neither of these railways generates excessive noise at the project site.

There is no current off-site vibration source within a reasonable impact distance of the site (typically 250 feet), including the railroad.

Noise Sensitive Land Uses (NSLUs)

Noise-sensitive land uses (NSLUs) are land uses that may be subject to stress and/or interference from excessive noise, such as residential dwellings, transient lodging, dormitories, hospitals, educational facilities, and libraries. Specifically, sensitive noise receptors in the City include residential areas, the National Wildlife Refuge, major parks, Newark Unified School District schools, senior housing, and neighborhood churches (RBF 2011). Industrial and commercial land uses are generally not considered sensitive to noise. There are no existing residential or other NSLU locations adjacent to the project site. There are residential developments to the north and northeast, at a distance of approximately 1,730 feet or more from the northeastern project boundary (approximately 740 feet from the Enterprise Drive off-site improvement area). The planned on-site residences (including outdoor use areas), as well as residences along Enterprise Drive west of Willow Street, are also considered noise-sensitive receptors.

Vibration Sensitive Land Uses

Land uses in which ground-borne vibration could potentially interfere with operations or equipment, such as research, manufacturing, hospitals, and university research operations (Federal Transit Administration [FTA] 2006) are considered "vibration-sensitive." The degree of sensitivity depends on the specific equipment that would be affected by the ground-borne vibration. Excessive levels of ground-borne vibration of either a regular or an intermittent nature can result in annoyance to residential uses. No vibration-sensitive land uses are located on or within 200 feet of the project site.

Noise Measurement Locations and Results

Short-term noise measurement was taken on the project site and one traffic noise measurement was taken along Willow Street, south of Enterprise Drive, in the project vicinity. Applicable information from these noise measurements, including the time, duration and noise level at each location, is provided below in Table 4.9-2, *Existing Noise Measurement Conditions and Results*.

Table 4.9-2
EXISTING NOISE MEASUREMENT CONDITIONS AND RESULTS

Date	September 11, 2014
Conditions	Sunny, north/northeast winds of approximately 8 mph, temperature of approximately 68°F with 83% humidity
Measurement 1: Ambient Measurement	
Time	11:05 a.m. – 11:20 a.m.
Location	Approximately 37°31'7.71"N, 122°3'23.69"W
Measured Noise Level	50.5 dBA L_{EQ}
Notes	Minor aircraft noise may have been captured during the sound measurement, but had no substantial effect on the noise measurement due to the limited duration of aircraft flyovers.
Measurement 2: Traffic Noise Measurement	
Time	11:45 a.m. – 12:00 p.m.
Location	Willow Street south of Enterprise Drive in the driveway entrance to the SHH/FMC project site (~GPS: 37°31'12.22"N, 122° 2'56.65"W)
Measured Noise Level	65.1 dBA L_{EQ}
Notes	Distance to roadway centerline was approximately 50 feet.

Source: HELIX 2015f.

4.9.2 Regulatory Setting

This section summarizes the laws, ordinances, regulations and standards that are applicable to the proposed project. Regulatory requirements related to environmental noise are typically promulgated at the local level; however, federal and state agencies provide standards and guidelines to the local jurisdictions.

Federal

Federal Aviation Administration (FAA) Standards

Enforced by the FAA, Code of Federal Regulations (CFR) Title 14, Part 150 prescribes the procedures, standards and methodology governing the development, submission, and review of airport noise exposure maps and airport noise compatibility programs, including the process for evaluating and approving or disapproving those programs. Title 14 also identifies those land uses which are normally compatible with various levels of exposure to noise by individuals. The FAA has determined that interior sound levels up to 45 dBA L_{DN} (or CNEL) are acceptable within residential buildings. The FAA also considers residential land uses to be compatible with exterior noise levels at or less than 65 dBA L_{DN} (or CNEL).

Federal Highway Administration (FHWA) Standards

CFR Title 23, Part 772 sets procedures for the abatement of highway traffic noise and construction noise. Title 23 is implemented by the US Department of Transportation (DOT) FHWA. The purpose of this regulation is to provide procedures for noise studies and noise

abatement measures to help protect the public health and welfare, to supply noise abatement criteria, and to establish requirements for information to be given to local officials for use in the planning and design of highways. All highway projects which are developed in conformance with this regulation shall be deemed to be in conformance with the DOT FHWA Noise Standards. Title 23 establishes 67 dBA as the worst-case hourly average noise level standard for impacts of federal highway projects to land uses including residences, recreational uses, hotels, hospitals, and libraries (23 CFR Chapter 1, Part 772, Section 772.19).

Federal Transit Administration Standards (FTA) and Federal Railroad Administration (FRA) Standards

Although the FTA standards are intended for federally funded mass transit projects, the impact assessment procedures and criteria included in the FTA Transit Noise and Vibration Impact Assessment Manual (May 2006) are routinely used for projects proposed in local jurisdictions. The FTA and FRA have published guidelines for assessing the impacts of ground-borne vibration associated with rail projects, which have been applied by many jurisdictions to other types of projects. The FTA measure of the threshold of architectural damage for conventional sensitive structures from ground-borne vibration is 0.2 inches/second PPV.

State

California Noise Control Act of 1973

Sections 46000 through 46080 of the California Health and Safety Code, known as the California Noise Control Act of 1973, finds that excessive noise is a serious hazard to the public health and welfare and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. It also finds that there is a continuous and increasing bombardment of noise in the urban, suburban, and rural areas. The California Noise Control Act declares that the State of California has a responsibility to protect the health and welfare of its citizens by the control, prevention, and abatement of noise. It is the policy of the state to provide an environment for all Californians free from noise that jeopardizes their health or welfare.

California Noise Insulation Standards (CCR Title 24)

In 1974, the California Commission on Housing and Community Development adopted noise insulation standards for hotels, motels, dormitories, and multi-family residential buildings (CCR Title 24, Part 2). Title 24 establishes standards for interior room noise (attributable to outside noise sources). The regulations also specify that acoustical studies must be prepared whenever a multi-family residential building or structure may be exposed to exterior noise levels of 60 dBA CNEL (or L_{DN}) or greater. Such acoustical analysis must demonstrate that the residence has been designed to limit intruding noise to an interior CNEL (or L_{DN}) of a maximum noise level of 45 dBA (California's Title 24 Noise Standards, Chap. 2-35).

2010 California Green Building Standards Code

Section 5.507 of the California Green Building Standards Code (CALGreen) establishes requirements for acoustical control in non-residential buildings. The standards require that wall and roof-ceiling assemblies making up the building envelope shall have a sound transmission

class value of at least 50, and exterior windows shall have a minimum sound transmission class of 30 for any of the following building locations: (1) within 1,000 feet of freeways ROW; (2) within 5 miles of airports serving more than 10,000 commercial jets per year; and (3) where sound levels at the property line regularly exceed 65 dBA, other than occasional sound due to church bells, train horns, emergency vehicles and public warning systems. Wall and floor-ceiling assemblies separating tenant spaces and tenant spaces and public places shall have a sound transmission class of at least 40. Additionally, Section A5.507.5 requires that classrooms have a maximum interior background noise level of no more than 45 dBA L_{EQ}.

Local

City of Newark General Plan

The City General Plan Noise Element identifies noise and land use compatibility standards for various land uses. These standards are intended to provide noise-compatible land uses throughout the community. Table 4.9-3, *City of Newark Exterior Land Use/Noise Compatibility Guidelines*, summarizes the City's exterior land use-noise compatibility guidelines. Shading in this table represents the maximum noise exposure level considered compatible for each land use category. Single-family residential land uses are considered "normally acceptable" in exterior noise environments of 60 dBA CNEL or less, multi-family residential land uses are considered "normally acceptable" in exterior noise environments of 65 dBA CNEL or less and playgrounds and neighborhood parks are considered "normally acceptable" in exterior noise environments of 70 dBA CNEL or less.

Table 4.9-3
CITY OF NEWARK EXTERIOR LAND USE/NOISE COMPATIBILITY GUIDELINES

Land Use Category	Annual CNEL (dBA)				
	55	60	65	70	75
Residential – Low Density Single Family, Duplex, and Mobile homes					
Residential – Multiple Family					
Transient Lodging – Motels, Hotels					
Schools, Libraries, Churches, Hospitals, and Nursing Homes					
Auditoriums, Concert Halls, Amphitheaters*					
Sports Arena, Outdoor Spectator Sports*					
Playgrounds, Neighborhood Parks					
Golf Courses, Riding Stables, Water Recreation, Cemeteries					
Offices Buildings, Business, Commercial, and Professional					
Industrial, Manufacturing, Utilities, Agriculture					

Source: City 2012
Notes: Shading represents the maximum noise exposure level considered normally acceptable for each land use category.
*Land use categories for which "Normally Acceptable" levels were not presented; "Conditionally Acceptable" levels are presented for these land use categories.

Relevant noise standards for the proposed project are those outlined in Table 4.9-3. The project would result in a significant noise impact if it results in the exposure of the proposed land uses to noise levels that exceed the limits of the City's Noise Element. For single-family residential land

uses, the exterior noise limit is 60 L_{DN} or CNEL (City 2012); for multi-family residential land uses, the exterior noise limit is 65 L_{DN} or CNEL. The interior noise limit for residential uses is 45 L_{DN} or CNEL. For neighborhood parks, like the park located in the northeast corner of the project site, the noise limit is 70 CNEL.

The City Municipal Code prohibits noisy or otherwise objectionable machinery or equipment used in the conduct of the home occupation such that no radio or television interference is created, and that the conduct of the home occupation shall not create any noise audible beyond the boundaries of the site (excluding parcels with Industrial Park District [MP], Limited Industrial District [ML], and General Industrial District [MG] zoning).

The following goals and implementation policies from the Noise Element are relevant to the proposed project:

Policy NO 1.2.1: The City shall require that all new developments incorporate design elements to minimize adverse noise impacts on surrounding land uses.

Program NO 1.2.1a: Establish design and planning requirements that lessen the impact of noise such as setbacks, earthen berms, building orientation, and landscaping.

Program NO 1.2.1b**:** Require multi-family residences and hotels to comply with the California Noise Insulation Standards, in the California Administrative Code, Title 25, Chapter 1, Subchapter 1, when they fall within the 60 dB (CNEL or L_{DN}) noise exposure contours.

Program NO 1.2.1c**:** Establish planning requirements for designers and architects on placement of windows, doors, and bedrooms relative to noise sources.

Policy NO 1.3.4: Control noise that causes discomfort between neighbors.

Program NO 1.3.4c: No person shall be allowed to cause any noise to be emitted past his/her property line in any manner so as to create any noise that would cause the ambient noise level to be increased by more than 6 dB.

Alameda County Noise Ordinance

As there are no noise guidelines related to construction and stationary noise thresholds within the Municipal Code for the City, the guidelines from the Alameda County Noise Ordinance were utilized in this project-specific analysis.

The County Municipal Code (Section 6.60.040) includes zoning-specific noise standards for stationary noise sources. Operation of the project would result in a noise impact if it exceeds the noise limits at the affected land uses listed in Table 4.9-3. A significant operational noise impact would occur if the maximum operational exterior noise limit for residential uses exceeds 50 dBA L_{EQ} during the daytime hours of 7:00 a.m. to 10:00 p.m., and 45 dBA L_{EQ} during the nighttime hours of 10:00 p.m. to 7:00 a.m. Further, the noise criteria for multi-family housing should comply with the Noise Insulation Standards of the California Code of Regulations (CCR), Part 2, Title 24, which require a noise analysis for multi-family housing whenever exterior noise

sources exceed 60 dBA (CNEL) or greater, to demonstrate that the interior noise level has been designed to limit interior noise to 45 dBA (CNEL).

With regard to construction noise, the County Code (Chapter 6.60, Noise) states that construction activities must not violate the hourly limits established in Section 6.60.070(E) of the County Code. That ordinance prohibits construction activity between 7:00 p.m. and 7:00 a.m. Monday through Friday, and between 5:00 p.m. and 8:00 a.m. on Saturday or Sunday.

4.9.3 Environmental Analysis

Significance Thresholds

Based on Appendix G of the State CEQA Guidelines and as discussed in the Dumbarton TOD Specific Plan EIR, implementation of the project would result in a significant adverse impact if it would:

- Expose persons to or generate noise levels in excess of standards established in the City of Newark General Plan or applicable standards of other agencies.
- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
- Expose persons to or generation of excessive ground-borne vibration or ground-borne noise levels.
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public use airport or private airstrip, expose people residing or working in the project area to excessive noise.

Transportation Sources

A substantial direct or cumulative (i.e., the traffic noise increase from the project generated in combination with traffic generated by cumulative growth assumed in the full buildout of the Dumbarton TOD Specific Plan) permanent increase in traffic noise could occur if The resulting ambient noise level meets the following criteria:

- An increase of the existing ambient noise levels by 5 dB or more, where the ambient level is less than 60 dB CNEL;
- An increase of the existing ambient noise level by 3 dB or more, where the ambient level is 60 to 65 dB CNEL; or
- An increase of the existing ambient noise level by 1.5 dB or more, where the ambient level is greater than 65 dB CNEL.

A project would result in a significant noise impact if a permanent increase in ambient noise levels exceeds these criteria, and the resulting noise level exceeds the City's applicable exterior standard at a noise-sensitive use.

Should a cumulative impact occur, the project's contribution to the impact would be considered cumulatively considerable if the following occurs: (1) the noise level exceeds the applicable exterior noise level limit at a noise-sensitive use; and (2) a significant portion of the noise increase must be the result of the proposed project, using the following criterion:

- The "cumulative plus project" condition results in a 1 dBA increase in noise over the "cumulative no project" noise level.

Construction Sources

Regarding construction noise limits, in the absence of other standards, it is assumed that a significant construction noise impact would result if the use of any tools, power machinery or equipment causes noise in excess of 75 dBA (8-hour average) between the hours of 7:00 a.m. and 7:00 p.m. and that the noise disturbs the comfort and repose of any person residing or working in the vicinity.

Vibration Sources

With respect to ground-borne vibration from construction activities, the FTA has adopted guidelines/recommendations to limit ground-borne vibration based on the age and/or condition of the structures that are located in close proximity to construction activity. According to the FTA, ground-borne vibration level of 0.2 inch-per-second PPV should be considered as the damage threshold criterion for structures deemed "fragile" (FTA 2006). Consistent with the Dumbarton TOD Specific Plan EIR, this analysis has assumed a conservative threshold of 0.2-inch-per-second PPV (City of Newark 2011). Construction activities within 200 feet and pile driving within 600 feet of a vibration sensitive use would be potentially disruptive to vibration-sensitive operations (Caltrans 2002).

Aircraft Sources

Aircraft noise levels would be considered excessive if they exceed the noise compatibility guidelines in the City General Plan Noise Element or in an applicable airport land use plan.

Summary of Findings from the Dumbarton TOD Specific Plan EIR

As discussed in Section 4.9.1 of this SEIR, the Dumbarton TOD Specific Plan EIR analyzed (in Chapter 4.10 of the Specific Plan EIR) project-related noise source impacts on site and to surrounding land uses for the Specific Plan, and identified measures to avoid impacts or reduce impacts to less than significant levels. The Specific Plan EIR concluded that construction activities associated with future development facilitated by the Specific Plan would potentially expose existing and future sensitive receptors to sporadic high noise and vibration levels as the Specific Plan area builds out. Structures could also be damaged as a result of construction-related vibration. The Specific Plan EIR also determined that future residential uses adjacent to the Dumbarton Rail Corridor project could experience train noise in excess of standards

established for residential uses. Finally, the Specific Plan EIR concluded that traffic from the implementation of the Specific Plan would increase noise levels along surrounding roadways and would contribute to cumulative increases in noise.

Impact Analysis

The following impact analysis is based on the detailed assumptions and calculations made in the project-level Acoustical Technical Report (HELIX 2015f). Assumptions related to figure noise sources and their activity levels are outlined in the report (refer to Appendix J of this SEIR). For the purposes of addressing the significance thresholds outlined above, the report addressed both construction and operational noise, including stationary sources (i.e., heating, ventilation and air-conditioning [HVAC] units), traffic noise, railroad operations and salt pond harvesting. It should be noted that the proposed residential and park uses associated with the Gateway Station West Project are considered NSLUs, as would the other similar uses with the Specific Plan area.

On-site Noise Levels in Excess of Standards

Direct Impacts

Exterior Residential Traffic Noise Levels. Transportation noise generated in the project vicinity is primarily from vehicular traffic noise; other off-site noise sources have a negligible contribution to ambient noise levels. There is a potential for the proposed residential uses to have land use-noise compatibility issues resulting from traffic noise for residences located along Hickory Street. Park uses with a full or partial view of Hickory Street may also experience excessive noise levels.

For modelling purposes, potential noise receiver locations were placed along the periphery of the proposed residential property lines, where either a balcony or yard may be located; these receivers were generally located between 55 and 65 feet from the centerline of the proposed Hickory Street alignment. A receiver was also identified for the park located in the northeast corner of the project site. Receiver locations are shown on Figure 4.9-1, *Receiver Locations*. Table 4.9-4, *2035 Buildout Traffic Noise Levels for On-Site Receiver Locations,* shows the calculated future traffic noise levels at the park receiver and at the proposed residential building facades at a first-story level (the second-story level of the buildings would have similar noise exposure). As stated earlier, the exterior noise limit is 60 CNEL for single-family residential land uses and 65 CNEL for multi-family residential land uses; the interior noise limit for residential uses is 45 CNEL. For neighborhood parks, like the project park located in the northeast corner of the site (P-1), the noise limit is 70 CNEL.

Table 4.9-4
2035 BUILDOUT TRAFFIC NOISE LEVELS FOR ON-SITE RECEIVER LOCATIONS

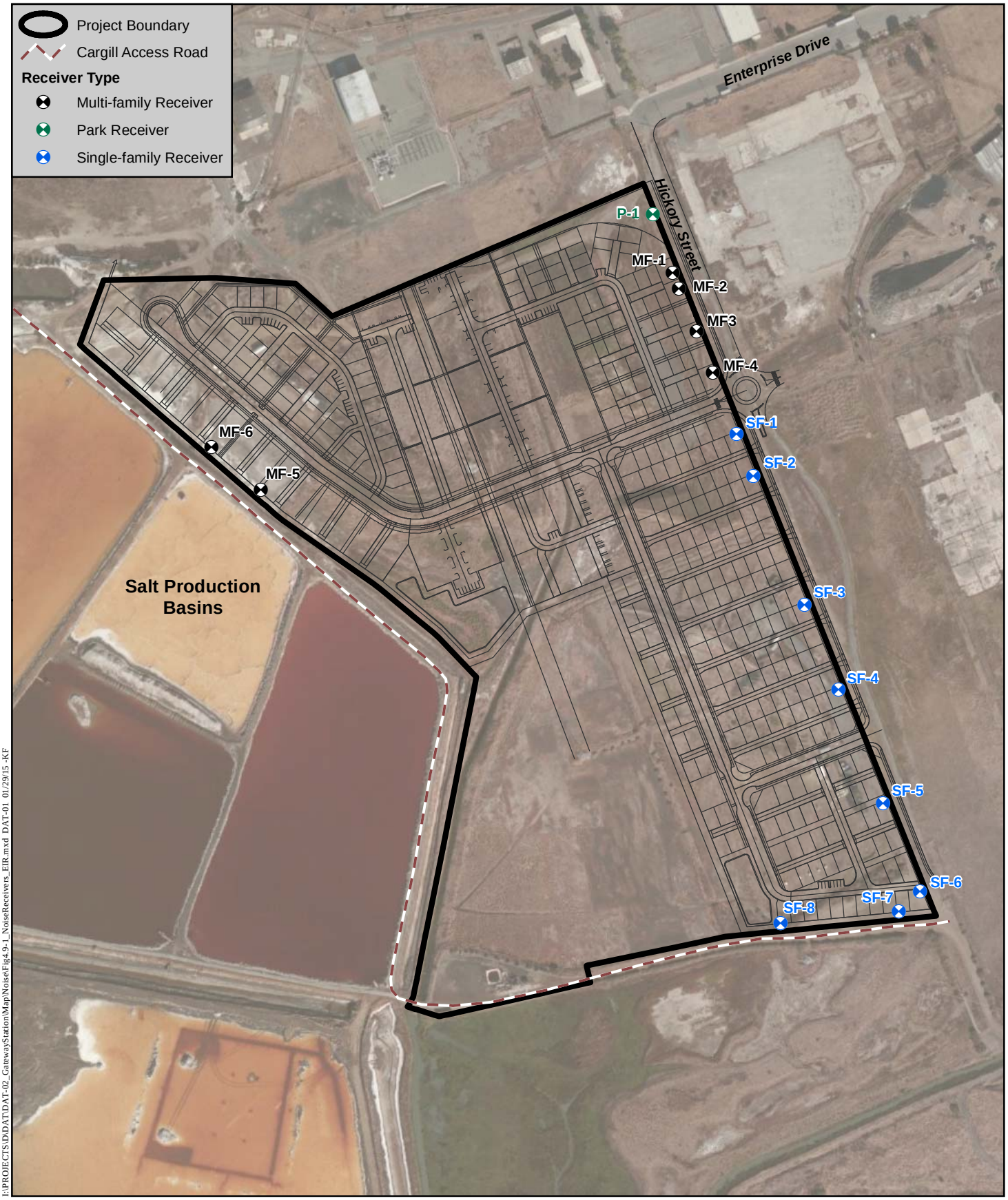
Receiver Name	Applicable Threshold (CNEL)	CNEL at Receiver[1]	Significant Exterior Noise Impact?
P-1	70	61	No
MF-1	65	60	No
MF-2	65	60	No
MF-3	65	60	No
MF-4	65	60	No
SF-1	60	60	No
SF-2	60	60	No
SF-3	60	60	No
SF-4	60	60	No
SF-5[2]	60	60	No
SF-6	60	59	No

Source: HELIX 2015f.
Notes: Noise levels listed are for ground-level receivers. See Figure 4.9-1 for receiver locations. Traffic levels are based on projected 2035 traffic levels for Hickory Street.
[1] Noise levels rounded to nearest decibel per Caltrans guidelines (Caltrans 2009a).
[2] The second-story balcony level for SF-5 was modeled to be 64.3 CNEL at a height of 15 feet.

As demonstrated in Table 4.9-4, noise levels for the park (P-1) would be below thresholds (70 CNEL) for Year 2035 conditions, as would outdoor use areas for the multi-family residences (below the 65 CNEL limit). Exterior noise levels for single-family residences were all modeled to be approximately 60 CNEL or less; therefore, noise impacts to project single-family residences would also be less than significant.

Second- and third-story balconies would experience similar noise levels (within 0.5 to 1.0 dBA) as the ground floor exterior use space. As the first-story single family residential receivers would not experience noise levels in excess of 60 CNEL, second- and third-story single-family residential balconies (that have a full or partial view of Hickory Street) would also not be expected to experience noise levels in excess of thresholds; impacts to single-family residential balconies would be less than significant.

Interior Residential Traffic Noise Levels. Exterior to interior analysis assumes a minimum 15 CNEL reduction from the outside to the inside of a structure, assuming standard building construction methods. Therefore, interior noise levels (which are required to be 45 CNEL or less) for residential land uses are assumed to be compatible with an exterior noise level up to 60 CNEL. As shown above in Table 4.9-4, all residential receivers (both multi- and single-family) were modeled to have exterior noise levels of 60 CNEL or lower. Based on these estimated exterior noise levels at the facades of the residences, interior noise levels would not be expected to exceed the interior noise standard of 45 CNEL. Impacts related to interior residential noise levels would be less than significant.



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Map Date: 01-29-2015

Receiver Locations

GATEWAY STATION WEST

HELIX Environmental Planning

N

0 350 Feet

Figure 4.9-1

Railroad Noise. Trains have the potential to produce noise levels in excess of the normally acceptable land use compatibility standards for residential uses. Typically, the 65-dBA CNEL noise contour falls within 500 feet or less from the centerline of tracks that experience a mix of freight and commuter rail operations. Noise levels may be further reduced as intervening topography and structures serve to shield noise or function as noise berms and walls. The actual distance to the 65-dBA CNEL can only be determined on a case-by-case basis, taking local obstructions, barriers/reflectors, and detailed site plans into account.

The FRA railroad noise modeling estimate for the future rail use within the Dumbarton transit corridor of six daytime and four nighttime passenger trains at a distance of 560 feet with no intervening structures (worst-case) is 38 CNEL. This noise level is below thresholds for all exterior use areas proposed on site (including the most stringent of 60 CNEL for single-family residences), and would not lead to interior noise levels in excess of the 45 CNEL threshold. Additionally, it is below the measured ambient noise level of 50.5 dBA L_{EQ}. The rail noise would therefore not likely be audible above the ambient noise levels, and impacts would be less than significant.

Material Transport Truck Noise from Solar Salt Ponds. Although barriers are proposed along the perimeter of the project site that boarders the solar salt pond access roads, noise from annual material transport from the salt ponds could potentially affect proposed residential uses along access roads. The access roads are located immediately west of and south of the project boundary, and in close proximity to 12 proposed multi-family residential buildings in the northwest portion of the project site and 11 single-family residences in the southwest portion of the project site. Assuming 18 truck trips per hour over a 24-hour period, the worst-case noise level for the multi-family residences in the western portion of the site (without accounting for the proposed barriers along the access roads) was modeled to be 57.4 CNEL; for the single-family residences located in the southern portion of the site, the worst-case noise level was 55.9 CNEL. Refer to Table 4.9-5, *Salt Harvest Transport Noise Levels,* for modeled noise levels related to these access road truck trips at single- and multi-family receptors located near the access roads.

Table 4.9-5
SALT HARVEST TRANSPORT NOISE LEVELS

Receiver Number	Receiving Land Use Type	Noise Level (CNEL)
SF-7	Single-Family	54.8
SF-8	Single-Family	55.9
MF-5	Multi-Family	57.4
MF-6	Multi-Family	57.2

Source: HELIX 2015f

As the truck trips associated with the infrequent salt harvest events would not generate noise levels in excess of the 65 CNEL multi-family or 60 CNEL single-family thresholds, impacts would be less than significant. Refer to Figure 4.9-1 for the receiver locations of residences assessed for potential noise impacts related to these truck trips.

Stationary Noise (Residential HVAC Units). The operation of residential HVAC units could potentially result in noise disturbances to adjacent residences. However, specific equipment type and location information related to HVAC placement is not available at this time. For project multi-family housing units, it is assumed that HVAC equipment would be roof-mounted with a 4-foot-high parapet wall. With the incorporation of a standard 4-foot parapet wall, roof-mounted HVAC units would generate noise levels of approximately 18 dBA L_{EQ} for first-story receivers; an adjacent third-story residential receiver would experience noise levels of approximately 21 dBA L_{EQ}. As these noise levels would be less than 45 dBA L_{EQ}, impacts from roof-mounted HVAC units would be less than significant.

For single-family residences, it is assumed that HVAC equipment could be ground-mounted; ground-mounted HVAC equipment would have the potential to generate noise levels in excess of thresholds depending upon the proximity of the equipment to nearby NSLUs. The County Noise Ordinance states that exterior noise levels are compatible with operational exterior noise limit for residential uses of 50 dBA L_{EQ} during the daytime hours of 7:00 a.m. to 10:00 p.m. and 45 dBA L_{EQ} during the nighttime hours of 10:00 p.m. to 7:00 a.m. Based on estimated equipment noise levels, provided that ground-mounted HVAC equipment is located at least 25 feet away from adjacent residential property lines, noise levels would meet the most restrictive nighttime noise level of 45 dBA LEQ; if ground-mounted HVAC equipment is located closer than 25 feet from adjacent residential property lines, impacts would be potentially significant.

Cumulative Impacts

The potential noise impacts that would result from cumulative projects and regional growth are included in the Specific Plan buildout (2035) scenario.

Noise levels at the proposed locations of residences and parks as presented in Section 4.9.1 were based on Year 2035 Specific Plan buildout traffic volumes, which includes cumulative projects. The project would not be expected to expose residences to noise levels in excess of City standards and would not be responsible for a cumulatively considerable contribution to a cumulative impact. Further, all new development within the Dumbarton Specific Plan would need to comply with MM 4.10-3 if the projects in question are within 600 feet of the Dumbarton rail corridor, and would need to comply with the same County Noise Ordinance and City Noise Element standards prior to the issuance of building permits.

Off-site Permanent Increases in Ambient Noise Levels

Direct Impacts

To address the project's contribution to permanent measures in existing traffic noise, calculations were conducted to compare Existing and Existing plus Project. Table 4.9-6, *Direct Project Traffic Noise Impacts at 75-foot Representative Distance (CNEL)*, provides the traffic noise levels along street segments surrounding the project for the Existing and Existing plus Project conditions, and for the analysis of direct project impacts.

Table 4.9-6
DIRECT PROJECT TRAFFIC NOISE IMPACTS
AT 75-FOOT REPRESENTATIVE DISTANCE (CNEL)

Roadway Segment	Existing	Existing + Project	Change	Impact?
Willow Street				
Enterprise Drive to Thornton Avenue	63.2	64.9	+1.7	No
Enterprise Drive				
Hickory Street to Willow Street	50.5[1]	59.0	+8.5	No[2]

Source: HELIX 2015f.

[1] As no existing traffic volume for this segment was available, the traffic noise measurement from the project site visit was utilized for existing noise levels on this segment.

[2] Although a change over 5 dB occurs no impacts are assessed because total noise levels are below the 60 CNEL threshold.

As demonstrated in Table 4.9-6, project traffic noise level generated along Willow Street from Enterprise Drive to Thornton Avenue would increase traffic noise levels by approximately 1.7 dBA. Since the existing levels were between 60 and 65 dBA, the threshold for a significant impact for this scenario is a 3 dBA increase; therefore, the project's traffic would not cause the segment of Willow Street to exceed the stated threshold, and impacts would be less than significant.

The Existing plus Project noise levels for the segment of Enterprise Drive in the project vicinity were modeled to be approximately 59.0 CNEL as shown in Table 4.9-6. For this segment, the difference between Existing (ambient measurement) and Existing plus Project noise levels is approximately 8.5 dBA. As stated above, when the baseline noise level is less than 60 dBA, an increase in noise of 5 dBA or more is considered to be a significant impact. However, similar to the way that impacts are assessed in the Dumbarton TOD Specific Plan EIR, although the increase is greater than 5 dBA, the resultant noise level is below the City's residential standard of 60 CNEL, which is within the acceptable exterior noise levels for residential uses. Therefore, all project-added traffic noise impacts would be considered less than significant.

Cumulative Impacts

Cumulative impacts are assessed by comparing the Existing (no Project) conditions to the Year 2035 buildout with Project conditions. Refer to Table 4.9-7, *Cumulative Traffic Noise Impacts at 75-foot Representative Distance (CNEL),* for the cumulative impact analysis. As shown in Table 4.9-7, for Willow Street from Enterprise Drive to Thornton Drive, traffic noise levels in the Year 2035 buildout (with project) scenario would be slightly reduced (by 1.6 dBA) compared to existing conditions. This is because of the assumption that based on implementation of MM 4.10-4 from the Dumbarton TOD EIR, posted speed levels would be reduced from 45 mph to 25 mph. Even though there would be more cars traveling on this segment, no cumulative noise impact would occur because of this reduction in automobile speeds.

Enterprise Drive from Hickory Street to Willow Street would experience a 13.6 dBA increase (from 50.5 CNEL to 64.1 CNEL) in traffic noise levels from Existing (no Project) to Year 2035

buildout (with Project) conditions. As this increase is greater than 5 dBA, a significant cumulative impact is assessed for this segment. Additionally, modeling demonstrated that the project would contribute a 1.6 dBA increase to this 13.6 dBA change; because the project would contribute more than the 1 dBA specified in the threshold to the cumulative impact, it would have a cumulatively considerable contribution to a cumulative impact on this street segment.

Table 4.9-7
CUMULATIVE TRAFFIC NOISE IMPACTS AT 75-FOOT REPRESENTATIVE DISTANCE (CNEL)

Roadway Segment	Existing No Project[1]	2035 With Specific Plan (without Project)	2035 With Specific Plan (with Project)	Cumulative + Project Change from Existing	Significant Cumulative Impact?	Project Contribution to Cumulative	Significant Contribution to a Significant Cumulative Impact?
Willow Street							
Enterprise Drive to Thornton Avenue	63.2	61.0	61.6	-1.6	No	+0.6	No
Enterprise Drive							
Hickory Street to Willow Street	50.5[2]	62.5	64.1	**+13.6**	Yes	+1.6	**Yes**

Cumulative impacts are assessed when:

- An increase of the existing ambient noise levels by 5 dB or more, where the ambient level is less than 60 dB CNEL;
- An increase of the existing ambient noise level by 3 dB or more, where the ambient level is 60 to 65 dB CNEL; or
- An increase of the existing ambient noise level by 1.5 dB or more, where the ambient level is greater than 65 dB CNEL.
- A cumulatively considerable contribution to a cumulative impact is assessed when the "cumulative plus project" condition exceeds the stated threshold and results in a 1 dBA or greater increase in noise over the "cumulative no project" noise level.

[1] Existing conditions modeling assume the current speed limit of 45 mph along Willow Street; Year 2035 modeling for Willow Street assumed the future speed limit of 25 mph (hence the reduction in traffic noise even with an increase in traffic

[2] As no existing traffic volume for this segment was available, the traffic noise measurement from the project site visit was utilized for existing noise levels on this segment.

Temporary Increase in Ambient Noise

Construction of the project would generate elevated noise levels that may disrupt nearby noise sensitive receptors. The magnitude of the impact would depend on the type of construction activity, equipment, duration of each construction phase, distance between the noise source and receiver, and the presence of any intervening structures. The following project design measures (as required in the Specific Plan MM 4.10-1a) are incorporated into the project assumptions.

- Restrict noise-generating activities at the construction site or in areas adjacent to the construction site to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday, and between 8:00 a.m. to 5:00 p.m. on Saturdays.
- Equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds, wherever feasible).
- Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electronically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible, and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever feasible.
- Stationary noise sources shall be located as far from adjacent receptors as possible, and they shall be muffled and enclosed within temporary sheds, incorporated insulation barriers, or other measures to the extent feasible.
- If feasible, the noisiest phases of construction shall be limited to less than 10 days at a time.

Direct Impacts

Project construction would entail the use of equipment throughout the site for the full term of construction. Construction activities would be roughly divided into six phases (which may contain some overlap depending upon location and timing). The phases would include the following: demolition, grading, foundation excavation, utilities excavation, foundation pour and building construction.

The buildings associated with the existing pistol range and dog training area would be removed as a part of project construction. The structures to be demolished, located in the southern area of the project site, are located well over 2,000 feet from the nearest residences (located east of the project site at the intersection of Enterprise Drive and Aleppo Drive); further, industrial uses are located between these facilities and the nearest residence, which would provide additional noise shielding. These existing on-site facilities are relatively small and would be easily demolished

and removed with a loader and dump trucks. Demolition is not anticipated to be a substantial source of noise during project construction.

Other potential construction noise impacts to off-site uses could occur during site preparation when a dozer, excavator, and a loader would be utilized to over-excavate, backfill, and compact the site to prepare the site for the project's installation of utilities and building foundation. The FHWA Roadway Construction Noise Model (RCNM) Version 1.0 (U.S. DOT 2008) lists the noise level of an excavator as 85 dBA at 50 feet. Excavation would occur throughout much of the site. The existing residential use closest to where proposed excavation may occur is located approximately 1,730 feet away from the northeastern corner of the project site, along Willow Street just south of Thornton Avenue. The closest existing residence (at the corner of Aleppo Drive and Hickory Street) from the Enterprise Drive ROW off-site improvement area is located approximately 740 feet away.

An excavator operating at 740 feet from the nearest existing off-site residential property line (to the off-site improvement area) would result in a noise level of 53 dBA L_{EQ} (hourly), not taking into consideration shielding provided by intervening structures. If a dozer, excavator and a loader were all operational at the same time, noise levels at the nearest residence (740 feet away) would be 58 dBA L_{EQ} (hourly).

These projected noise levels would be lower than the standard 75 dBA L_{EQ} construction noise limits for residentially zoned property, and thus, no significant impact would occur. Additionally, in compliance with the County Noise Ordinance, construction activities at the project site would be restricted to the hours of 7:00 a .m. to 7:00 p.m., Monday through Friday, and between 8:00 a.m. to 5:00 p.m. on Saturdays further minimizing effects on the nearest residents.

Cumulative Impacts

Construction noise impacts are localized because they are limited to the construction site where construction equipment is operating. As discussed in Section 4.3.1, if a dozer, excavator and a loader were all operational at the same time, noise levels at the nearest residence (740 feet away) would be 58 dBA L_{EQ} (hourly). Future cumulative projects would be subject to the County's construction noise ordinance, which prohibits construction activity between 7:00 p.m. and 7:00 a.m. Monday through Friday, and between 5:00 p.m. and 8:00 a.m. on Saturday or Sunday. Additionally, future projects implemented within the TOD Specific Plan would be required to implement MMs 4.10-1a and 4.10-1b from the Program EIR, which would reduce construction noise to a less than significant level. Implementation of project design features described in Section 1.5 and compliance with the County ordinance and policies in the City Noise Element would reduce impacts to a less than significant level. Therefore, cumulative impacts would be less than significant.

Excessive Ground-Borne Vibration

Direct Impacts

There is no current off-site vibration source within a reasonable impact distance (typically 250 feet), including the railroad, that would affect proposed uses within the project site. Therefore, the vibration analysis is limited to construction-related impacts to off-site land uses.

The main concern associated with ground-borne construction vibration is annoyance; however, vibration-sensitive instruments and operations (such as those found in hospitals and laboratories) can be disrupted at much lower levels than would typically affect other uses. In extreme cases, the vibration can cause damage to buildings, particularly those that are old or otherwise fragile. No vibration-sensitive land uses are located within 200 feet of project site. Although residences are not typically considered vibration-sensitive, they could be adversely affected by excessive construction vibration. The nearest off-site residence is located 740 feet away from the Enterprise Drive off-site improvement area to the east.

No pile driving is anticipated to be necessary as part of project construction; the loudest source of potential vibration from project construction would be the potential use of a vibratory roller, that may be used to achieve soil compaction as part of the foundation construction (and possibly for on-site driveways at a later time). The vibration threshold utilized in the Dumbarton TOD Specific Plan EIR assumed a conservative threshold of 0.2 inch-per-second PPV, as discussed above. A vibratory roller creates approximately 0.210 inch-per-second PPV at 25 feet, according to the Transportation and Construction Vibration Guidance Manual (Caltrans 2013). As all construction equipment would be located at distances of over 740 feet to the nearest existing residence, vibration impacts would be less than significant.

Cumulative Impacts

Vibration impacts are localized and not all construction activities for cumulative projects would occur at the same time or at the same location. Consistent with the Dumbarton TOD Specific Plan EIR, the Project vibration analysis has assumed a conservative threshold of 0.2-inch-per-second PPV (City of Newark 2011a); based on this threshold, the proposed project would not result in an impact associated with construction vibration. According to the FTA, ground-borne vibration level of 0.2 inch-per-second PPV should be considered as damage threshold criterion for structures deemed "fragile" (FTA 2006). Cumulative projects within the Dumbarton TOD Specific Plan would need to comply with these limits for vibration impacts. Additionally, future projects implemented within the TOD Specific Plan would be required to implement MM 4.10-2 from the Program EIR if pile driving is required, which would reduce vibration impacts to a less than significant level. Therefore, a cumulative ground-borne vibration impact would not occur.

Airport Noise

Direct and Cumulative Impacts

The nearest airports are the Palo Alto general aviation airport located 6 miles southwest of the site and the Hayward Executive Airport located 10 miles to the north. The San Jose International Airport is 13 miles southeast of the project site. The project site is located outside of the 65 CNEL noise contour for all airports. At these distances, no effect related to airport noise would occur at the project site, and impacts would be less than significant. No additional aviation uses are planned to be introduced in the immediate vicinity of the project site. In addition, the project does not propose any new air traffic. No NSLUs would be exposed to excessive noise levels from aviation as a result of the proposed project. Therefore, a cumulative impact related to aviation would not occur.

4.9.4 Level of Significance Before Mitigation

Direct potential noise impacts associated with transportation vehicular traffic, construction activities, airports, rail lines and materials transport associated with the adjacent solar salt ponds, were all found to be less than significant, as were vibration effects, based on project design. The potential for ground-mounted HVAC equipment to be located closer than 25 feet from adjacent residential property lines, however, resulted in an assessment of potentially significant direct impacts prior to mitigation. Excluding off-site transportation vehicular traffic, no cumulative noise impacts were identified. The area in which potentially significant traffic noise could occur is restricted to the area along Enterprise Drive (between Hickory Street to Willow Street), and is related to the speed (45 mph) with which vehicles could be moving.

4.9.5 Mitigation Measures

Relevant Mitigation Measures from the Dumbarton TOD Specific Plan EIR

Section 4.10 of the Dumbarton TOD Specific Plan EIR identified a number of MMs relevant to Specific Plan implementation. MM 4.10-1a requirements have been implemented through incorporation into project assumptions during proposed project assessment, as discussed in Section 4.9.3. MM 4.10-1b from the Dumbarton TOD Specific Plan EIR requires project applicants to implement a list of measures to respond to and track complaints pertaining to construction noise, ongoing throughout demolition, grading, and/or construction. These measures are applicable to the proposed project and are specified below. MM 4.10-3 addressed potential exterior and interior noise levels for residential units proposed within 600 feet of the Dumbarton transit corridor. While this requirement has been met through the described project-level Acoustical Technical Report, a project-specific measure related to ground-mounted HVAC unit noise is required.

MM 4.10-1b

- Identify a procedure and phone numbers for notifying the City Building Inspection Division staff and Newark Police Department (during regular construction hours and off-hours);

- Post a sign on site pertaining to the permitted construction days and hours and complaint procedures and who to notify in the event of a problem. The sign shall also include a listing of both the City and construction contractor's telephone numbers (during regular construction hours and off-hours);
- Designate an on-site construction complaint and enforcement manager for the project. The manager shall act as a liaison between the project and its neighbors (including on-site residents). The manager's responsibilities and authority shall include the following:
    - An active role in monitoring project compliance with respect to noise;
    - Ability to reschedule noisy construction activities to reduce effects on surrounding noise sensitive receivers;
    - Site supervision of all potential sources of noise (e.g., material delivery, shouting, debris box pick-up and delivery) for all trades; and,
    - Intervening or discussing mitigation options with contractors.
- Notify neighbors and occupants within 300 feet of the project construction area at least 30 days in advance of construction activities regarding the details and estimated duration of the activity; and,
- Hold a preconstruction meeting with the job inspectors and the general contractor/on-site project manager to confirm that noise measures and practices (including construction hours, neighborhood notification, posted signs, etc.) are completed.

Project-Specific Mitigation Measures

To ensure that residential noise levels are within acceptable noise levels, the following MM is required:

MM Noi-1 **HVAC Condenser Noise Attenuation.** For residences located within 25 feet of ground-mounted HVAC equipment, attenuation of exterior HVAC noise to levels to 45 dBA L_{EQ} (for usable outdoor space) shall be ensured prior to issuance of certificates of occupancy. For single-family attached or multi-family development, potential noise control measures to achieve the performance standard for outdoor usable space include, but are not limited to: noise control barriers around the HVAC units and/or the outdoor usable space, and/or installing roof-mounted units with a standard parapet wall.

The following MMs shall be implemented to reduce cumulative traffic noise levels along Enterprise Drive from Hickory Street to Willow Street.

MM Noi-2 **Reduce Posted Speed Levels Along Enterprise Drive.** Prior to the issuance of building permits, the project applicant shall coordinate with the City's Public Works Director to change the posted speed limit along Enterprise Drive (between Hickory Street and Willow Street) to 25 mph. Implementation of this measure shall be indicated on all project plans and specifications.

MM Noi-3 **Site-Specific Noise Analysis for Proposed Uses along Enterprise Drive.** Prior to the approval of building permits for residences located along Enterprise Drive between Hickory Street and Willow Street, a site-specific acoustic analysis shall be conducted to ensure exterior and interior sound levels are equal to or less than the applicable allowable limits (60 CNEL for single-family exterior, 65 CNEL for multi-family exterior, 45 CNEL for residential interior).

4.9.6 Significance After Mitigation

Implementation of MM Noi-1 would ensure that noise impacts related to HVAC equipment would be reduced to below the 45 CNEL exterior threshold for adjacent residential properties. Modeling results for the Year 2035 scenario demonstrate that implementation of MM Noi-2 would reduce off-site exterior noise levels to within City standards, as shown in Appendix J Table 5-2, *Mitigated Cumulative Exterior Traffic Noise Levels at 75-foot Representative Distance*. With implementation of MM Noi-3, off-site proposed uses along Enterprise Drive would not be exposed to interior and exterior noise levels in excess of thresholds. Off-site cumulative noise effects related to vehicular traffic noise would be lowered to a less than considerable contribution.

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4.10 TRANSPORTATION AND TRAFFIC

The following summary of transportation and circulation impacts is based upon the Gateway Station West Transportation Evaluation, (along with the subsequent Gateway Station West Transportation Memorandum which updated the traffic information presented in the aforementioned Transportation Evaluation) (Fehr & Peers 2014, 2015), and transportation analysis in Chapter 4.14 of the Dumbarton TOD Specific Plan EIR (RBF 2011). The transportation impact analysis presented in this section was conducted by Fehr & Peers in accordance with Alameda County and City of Newark guidelines, and the Alameda County Transportation Commission requirements. The proposed project is part of a larger development area addressed in the EIR for the Dumbarton TOD Specific Plan; the analysis in the Specific Plan document also informs this transportation section. The project-specific transportation studies are contained in Appendix K to this SEIR.

4.10.1 Environmental Setting

Existing Roadway Characteristics

The following is a description of the project study area intersections, arterial roadway segments and freeway/State highway facilities that were assessed in the Dumbarton TOD Specific Plan EIR and/or the project-specific Transportation Evaluation (Fehr & Peers 2014).

Study Area Freeways

Interstate 880. Interstate 880 (I-880) also known as the Nimitz Freeway, extends in a north-south direction on the east side of the San Francisco Bay. It extends from Oakland in the north to San Jose in the south. I-880 is an eight-lane facility in the project vicinity, with four lanes in each direction (three mixed-flow lanes and one High Occupancy Vehicle (HOV) lane). HOV lanes are reserved for use by carpool and vanpools, buses and motorcycles during the morning and evening commute periods. I-880 has interchanges at Mowry Avenue and Thornton Avenue that provide regional access to the project area. Near the study area the average daily traffic (ADT) volume for this roadway in 2010 was approximately 195,000 vehicles (RBF 2011).

State Route 84. State Route (SR) 84 is a six-lane State highway approximately one mile north of the project area. The Dumbarton Bridge crossing of the San Francisco Bay is designated SR 84. Two interchanges are provided which serve the City of Newark and the project site, at Thornton Avenue and Newark Boulevard. This crossing is a toll road west of the Thornton Avenue interchange. Near the study area the ADT volume for this roadway in 2010 was approximately 58,000 vehicles (RBF 2011).

Study Area Arterial Roadways – North/South Roadways

Thornton Avenue. Thornton Avenue is a two- to four-lane arterial roadway that traverses the City from SR 84 to I-880 and is one of the busiest roadways in the City. West of the railroad tracks, Thornton Avenue is a two-lane roadway, with a center two-way left turn lane and on-street parking. It provides the only access to/from the Don Edwards National Wildlife Refuge and Bay Trail trailhead in the City. The City's long-term plan for this section of Thornton Avenue (between the railroad tracks and Willow Street) is to improve the two-way left

turn lane to a raised center median with turn pockets (RBF 2011). Class II bike lanes are provided on Thornton Avenue west of Hickory Street. Two other short sections of the street are designated a Class III bike route (between Hickory Street and Willow Street, and between Cedar Boulevard and I-880). The speed limit is 45 mph between SR 84 and Willow Road and 35 mph from Willow Road to I-880. Thornton Avenue also provides regional access to the Specific Plan area via the interchanges at I-880 and SR 84. Near the study area (along Thornton from Willow Street to Sycamore Street) the ADT volume for this roadway in 2010 was approximately 1,410 vehicles (RBF 2011).

Willow Street. Willow Street is a two-lane roadway between Cedar Boulevard and Enterprise Drive. Between Enterprise Drive and Central Avenue, Willow Street changes to a four-lane roadway, and provides access to the project area. Willow Street terminates at an industrial facility, and has a posted speed limit of 45 mph for southbound traffic and 40 mph for northbound traffic. Near the study area (along Willow Street from Thornton Avenue to Central Avenue) the ADT volume for this roadway in 2010 was approximately 600 vehicles (RBF 2011).

Spruce Street. Within the study area, Spruce Street is a two-lane residential collector roadway. It connects Wells Avenue to Jarvis Avenue, and provides access to several schools in the area, including Schilling Elementary School and Lincoln Elementary School within the Newark Unified School District. Spruce Street has been traffic calmed with speed bumps to reduce vehicle traffic speeds and cut-through traffic. The posted speed limit on Spruce Street is 25 mph.

Cherry Street. North of Thornton Avenue, Cherry Street is a two-lane collector with residential frontage. This section of Cherry Street is traffic calmed with speed humps, with a posted speed limit of 25 mph. At Mirabeau Drive, Cherry Street becomes Brittany Avenue, and at Newark Boulevard, Brittany Avenue becomes Ruschin Drive. Ruschin Drive continues south to its terminus at Thornton Avenue, paralleling Cedar Boulevard.

South of Thornton Avenue, Cherry Street is a four-lane arterial with a landscaped median or center two-way left turn lane and turn pockets. Class II bike lanes are provided on portions of this section south of Central Avenue, although they drop at several constraint points and at the Mowry Avenue/Cherry Street intersection. Cherry Street provides connections to City of Fremont, as it becomes Boyce Road south of the Newark City limit. Within Newark, it also provides access to the Silliman Activity and Family Aquatics Center and Ohlone College Newark Campus. The posted speed limit increases to 35 mph between Thornton Avenue and Central Avenue, and to 45 mph south of Central Avenue.

Newark Boulevard. Newark Boulevard is a four-lane arterial that connects the main retail area in the northern section of the City with central Newark before merging with Central Avenue. North of SR 84, Newark Boulevard is designated Ardenwood Boulevard. Newark Boulevard has Class II bike lanes north of Cedar Boulevard and south of Thornton Avenue. Between Cedar Boulevard and Thornton Avenue, Newark Boulevard is designated a Class III bike route. The posted speed limit is 35 mph on Newark Boulevard.

Cedar Boulevard. Cedar Boulevard is a four-lane arterial roadway that circulates through much of the City. Cedar Boulevard begins at Haley Street as a two-lane roadway that fronts residential neighborhoods with a wide center median, Class II bike lanes and on-street parking. Just west of

Newark Boulevard, Cedar Boulevard widens to four travel lanes (two in each direction) and becomes a Class III bike route. This configuration continues south to Thornton Avenue, where the median becomes a center two-way left turn lane. A median is again provided south of Moores Avenue. Class II bike lanes are provided at intermittent locations between Newark Boulevard and Stevenson Boulevard, where Cedar Boulevard ends. The speed limit is 35 to 40 mph along Cedar Boulevard, with the exception of the segment between Haley Street and Lido Boulevard, which is 30 mph.

Hickory Street. Hickory Street is a currently inaccessible (surrounded by fences) unpaved roadway located immediately to the east of the project site.

Study Area Arterial Roadways - East/West Roadways

Jarvis Avenue. Jarvis Avenue is the northernmost arterial that provides access across the City, as well as access to much of the retail area in the north area of the City. Jarvis Avenue is a four-lane road with a landscaped median with turn pockets. The posted speed limit is 35 mph between Lake Boulevard and Lido Boulevard, and 45 mph west of Lido Boulevard. Class II bike lanes are provided along Jarvis Avenue.

Central Avenue. Central Avenue is an arterial roadway that provides access to and from the industrial area in the western portion of the City. From I-880 to Newark Boulevard, Central Avenue has four lanes with on-street parking and Class II bike lanes. West of Newark Boulevard, Central Avenue is designated a Class III bike route. Central Avenue narrows to two lanes with a wide center median and turn pockets west of Filbert Street, before connecting with Willow Street at the western edge of the developed area of the City. Between I-880 and Cherry Street, the posted speed limit is 35 mph; west of Cherry Street, the posted speed limit is 40 mph. Central Avenue also serves as a secondary access point to the project site. Near the study area (along Central Avenue from Filbert Street to Sycamore Street) the ADT volume for this roadway in 2010 was approximately 9,900 vehicles (RBF 2011).

Mowry Avenue. Mowry Avenue is a six-lane arterial between Cedar Boulevard and I-880, providing the main point of access to NewPark Mall. West of Cedar Boulevard, to Cherry Street, Mowry Avenue narrows to four lanes. This section of Mowry Avenue has a posted speed limit of 35 mph and is designated a Class III bike route. West of Cherry Street, Mowry Avenue has Class II bike lanes. It provides access to the Silliman Activity and Family Aquatics Center. Within the study area, Mowry Avenue is a four-lane roadway with a raised median and has an interchange with I-880.

Enterprise Drive. Enterprise Drive north of the project site is a two-lane roadway that terminates just northeast of the site with a posted 45 mph speed limit.

Study Area Intersections

The study area for the Dumbarton TOD Specific Plan also included the following 19 intersections:

1. SR-84 WB Ramps/Thornton Ave (Signalized)
2. SR-84 EB Ramps/Thornton Avenue (Signalized)

3. Gateway Boulevard/Thornton Avenue (Signalized)
4. Jarvis Avenue/Newark Boulevard (Signalized)
5. Cedar Boulevard/Newark Boulevard (Signalized)
6. Lake Boulevard/Cedar Boulevard (Signalized)
7. Willow Street/Thornton Avenue (Signalized)
8. Spruce Street/Thornton Avenue (Signalized)
9. Cherry Street/Thornton Avenue (Signalized)
10. Newark Boulevard/Thornton Avenue (Signalized)
11. Cedar Boulevard/Thornton Avenue (Signalized)
12. I-880 SB Ramps/Thornton Avenue (Signalized)
13. I-880 NB Ramps/Thornton Avenue (Signalized)
14. Willow Street/Enterprise Drive (Unsignalized)
15. Cherry Street/Central Avenue (Signalized)
16. Cedar Boulevard/Central Avenue (Signalized)
17. Cherry Street/Mowry Avenue (Signalized)
18. I-880 SB Rams/Mowry Avenue (Signalized)
19. I-880 NB Ramps/Mowry Avenue (Signalized)

Existing traffic levels of service for these intersections are provided below.

Existing Transit Service

The following is a summary of existing transit service in the Specific Plan area.

Alameda-Contra Costa (AC) Transit

AC Transit provides bus service in Alameda and Contra Costa Counties, including the City. Two bus routes operate on Thornton Avenue near the Specific Plan Area (Routes 251 and 275). Route 251 is the closest existing route to the Specific Plan Area with a stop at the intersection of Thornton Avenue/Willow Street which provides connection to the Fremont BART Station. This route operates weekdays at 60-minute headways between 6:00 a.m. and 8:34 p.m. On weekends, it operates from 6:00 a.m. to 7:53 p.m. Route 275 provides service to the Union City BART station, with the closest stop at the intersection of Thornton Avenue/Sycamore Street. This route operates weekdays at 60-minute headways between 6:13 a.m. and 8:37 p.m.

Bay Area Rapid Transit (BART)

BART operates train service throughout the San Francisco Bay Area. There are two BART lines that serve the Fremont and Union City stations which are located approximately five miles east of the Specific Plan area: the Richmond-Fremont Line and the Daly City-Fremont Line. The Fremont station is the current terminus for both lines, although a southerly extension to Milpitas and San Jose (Berryessa) is currently under construction. The Fremont-Daly City line does not operate weekday evenings or Sundays. Passengers bound for San Francisco and Daly City must

transfer to the Dublin-Pleasanton-SFO-Millbrae Line at the Bay Fair station in San Leandro during times the Fremont-Daly City line is not in service.

Altamont Commute Express (ACE)

The San Joaquin Regional Rail Commission (SJRRC) operates Altamont Commuter Express (ACE) commuter rail service of over 85 miles between Stockton and San Jose. It operates a limited number of trains per day with trains leaving Stockton in the morning and returning in the evening. The nearest ACE station is in Fremont and is located on Fremont Boulevard near Peralta Boulevard.

Amtrak

Amtrak also provides intercity rail service on the Capitol Corridor, connecting Auburn, Sacramento, Emeryville, Oakland and San Jose. The service provides a limited number of daily round trips. The nearest Amtrak station is collocated with the ACE station in Fremont on Fremont Boulevard near Peralta Boulevard.

Paratransit

East Bay Paratransit is a door-to-door alternative transit service for seniors and persons with disabilities that are prevented from using regular transit services. Services are provided during the same hours that BART and AC Transit operate. Applicants are required to submit a form and go through a review process to be eligible for services. Specific routes for this service are outlined in Section 4.14.2.2 of the Dumbarton TOD Specific Plan EIR.

Existing Bicycle and Pedestrian Facilities

Pedestrian Facilities

The Specific Plan area currently has minimal pedestrian connections and amenities. Sidewalks currently exist along Willow Street south of the Willow Street/Thornton Avenue intersection, along Enterprise Drive approximately 280 feet west of the Allepo Drive/Enterprise Drive intersection to the eastern City limit, and along Central Avenue east of Willow Street. Sidewalks do not exist along Willow Street on either side of the frontage for the Specific Plan area.

Bicycle Facilities

Bicycle facilities include bike paths (Class I), bike lanes (Class II) and bike routes (Class III) (Highway Design Manual, Caltrans). Bike paths are paved trails that are separated from roadways. Bike lanes are lanes on roadways designated for use by bicycles. These lanes are designated by pavement striping, pavement legends and signage. Bike routes are roadways that are designated for bicycle use by signs only and may or may not include additional pavement width for cyclists. Class II bike lanes currently exist along Thornton Avenue between the northern City limit and Hickory Street and a Class III bike route between Hickory Street and Willow Street. Class III bike routes currently exist along Willow Street from Cedar Boulevard to Hickory Street and along Enterprise Drive between Willow Street and Filbert Street.

Level of Service Definition

Traffic related impacts are assessed relative to the concept of level of service (LOS), which is a qualitative measure describing operational conditions within a traffic stream, and the motorist's and/or passenger's perception of operations. LOS, which is measured on a scale of A to F, generally describes the operational conditions in terms of speed, travel time, freedom to maneuver, comfort and convenience. Table 4.10-1, *Definitions for Intersection Level of Service*, describes traffic flow quality for LOS A through LOS F.

Table 4.10-1
DEFINITIONS FOR INTERSECTION LEVEL OF SERVICE

LOS	Congestion/Delay	Traffic Flow Quality
A	None	Low volumes, high speeds; Speed not restricted by other vehicles; All signal cycles clear with no vehicles waiting through more than one signal.
B	None	Operating speeds beginning to be affected by other traffic; Less than 10 percent of signal cycles have vehicles waiting through more than one signal cycle.
C	None to minimal	Operating speed and maneuverability closely controlled by other traffic; Between 10 and 30 percent of signal cycles have vehicles waiting through more than one signal cycle.
D	Minimal to substantial	Tolerable operating speeds; Between 30 and 70 percent of signal cycles have vehicles waiting through more than one signal cycle.
E	Significant	Capacity; Maximum traffic volume an intersection can accommodate; 70 to 100 percent of signal cycles have vehicles waiting through more than one signal cycle.
F	Considerable	Long queues of traffic; unstable flows; travel speeds can drop to zero.

Source: 2000 Highway Capacity Manual, Chapter 16. TRB Special Report 209

Existing Traffic Levels of Service

Table 4.10-2, *Existing Intersection Level of Service*, displays the intersection LOS and average vehicle delay results for the 19 study area intersections under existing conditions based on traffic counts conducted by Fehr & Peers (RBF 2011). LOS calculation worksheets for existing conditions are provided in Appendix G of the Dumbarton TOD Specific Plan EIR. As shown in Table 4.10-2, all of the study area intersections currently operate at acceptable LOS C or better with the exception of the following three intersections:

- Jarvis Avenue/Newark Boulevard (Signalized) – a.m. and p.m. peak-hours
- Cedar Boulevard/Newark Boulevard (Signalized) – p.m. peak-hour
- Cedar Boulevard/Thornton Avenue (Signalized) – a.m. peak-hour

Table 4.10-2
EXISTING INTERSECTION LEVEL OF SERVICE

Intersection	Peak Hour	Delay[a] (Sec)	LOS
SR-84 WB Ramps/Thornton Avenue	a.m.	9.5	A
	p.m.	6.1	A
SR-84 EB Ramps/Thornton Avenue	a.m.	12.3	B
	p.m.	13.5	B
Gateway Blvd/Thornton Avenue	a.m.	16.3	B
	p.m.	12.5	B
Jarvis Ave/Newark Boulevard	a.m.	60.4	E
	p.m.	41.1	D
Cedar Blvd/Newark Boulevard	a.m.	24.8	C
	p.m.	38.1	D
Lake Blvd/Cedar Boulevard	a.m.	12.8	B
	p.m.	13.2	B
Willow St/Thornton Avenue	a.m.	21.4	C
	p.m.	22.6	C
Spruce St/Thornton Avenue	a.m.	16.6	B
	p.m.	10.2	B
Cherry St/Thornton Avenue	a.m.	22.4	C
	p.m.	23.6	C
Newark Blvd/Thornton Avenue	a.m.	22.4	C
	p.m.	24.4	C
Cedar Blvd/Thornton Avenue	a.m.	39.7	D
	p.m.	33.7	C
I-880 SB Ramps/Thornton Avenue	a.m.	10.8	B
	p.m.	13.1	B
I-880 NB Ramps/Thornton Avenue	a.m.	9.5	A
	p.m.	10.0	A
Willow St/Enterprise Drive [b]	a.m.	9.2	A
	p.m.	9.6	A
Cherry St/Central Avenue	a.m.	26.8	C
	p.m.	21.1	C
Cedar Blvd/Central Avenue	a.m.	21.6	C
	p.m.	22.8	C
Cherry St/Mowry Avenue	a.m.	33.2	C
	p.m.	24.2	C
I-880 SB Rams/Mowry Avenue	a.m.	11.5	B
	p.m.	13.0	B
I-880 NB Ramps/Mowry Avenue	a.m.	10.6	B
	p.m.	16.0	B

Source: RBF 2011

[a] Average delay in seconds per vehicle.

[b] For one or two-way stop controlled intersections, delay shown is worst delay experienced by any of the approaches

Shading indicates unacceptable LOS.

4.10.2 Regulatory Setting

Regulatory agencies and their transportation policies, including LOS standards that affect the project, are discussed in this section. The minimum acceptable LOS standards for transportation facilities vary based on their classification (type of facility) and jurisdiction that controls the facility. The LOS standards listed below apply to the analysis of the Specific Plan including the proposed project. These standards are used to determine significant impacts and to develop appropriate mitigation measures.

State

California Department of Transportation (Caltrans)

Caltrans recommends a target LOS of between LOS C and LOS D for their facilities. If the location under existing conditions operates at a lower LOS than the appropriate target LOS, then the existing LOS should be maintained. In 2010, Caltrans' Smart Mobility Framework was adopted and serves as a planning framework that helps to guide and assess how well plans, programs and projects meet a definition of "smart mobility." It is applicable to various levels of plans, programs or projects (e.g., Regional Transportation and Blueprint Plans, General Plans, corridor plans, specific development proposals, etc.) in all parts of the State (i.e., urban, suburban, and rural).

Regional

Metropolitan Transportation Commission (MTC)

The majority of Federal, State and local financing available for transportation projects is allocated at the regional level by the Metropolitan Transportation Commission (MTC), the transportation planning, coordinating, and financing agency for the nine-county Bay Area. The current regional transportation plan, known as Transportation 2035, was adopted by MTC on April 22, 2009. Transportation 2035 specifies a detailed set of investments and strategies to maintain, manage and improve the region's surface transportation system from 2009 through 2035. The Plan specifies how anticipated Federal, State, and local transportation funds will be spent in the Bay Area during the next 25 years. Most of this "committed funding" will go toward maintaining the region's existing transportation infrastructure.

FOCUS: A Development and Conservation Strategy

The "Focusing our Vision" Program (FOCUS) is a regional development and conservation strategy that promotes a more compact land use pattern for the Bay Area. It is led by the Association of Bay Area Governments (ABAG) and MTC, with support from the BAAQMD and the Bay Conservation and Development Commission, in partnership with congestion management agencies, transit providers, and local governments throughout the Bay Area. It unites the efforts of these four regional agencies into a single program that links land use and transportation by encouraging the development of complete, livable communities in areas served by transit, and promotes conservation of the region's most significant resource lands. FOCUS directs financial assistance and other resources to Priority Development Areas (PDAs) and Priority Conservation Areas (PCAs). PDAs were designated to encourage planning of complete

communities, which emphasize walkable, compact neighborhoods with accompanying amenities such as shopping, parks, schools, childcare, and easy access to employment. In November 2007, the Dumbarton Rail Station Area was designated a PDA by the ABAG Executive Board.

Plan Bay Area

Plan Bay Area is a joint effort led by ABAG and MTC in partnership with the Bay Area's other two regional government agencies, BAAQMD and the Bay Conservation and Development Commission. The four agencies are collaborating to develop a Sustainable Community Strategy (SCS), required as part of the 2008 California legislation Senate Bill 375, which requires each of the state's 18 metropolitan areas to reduce greenhouse gas emissions from cars and light trucks. The SCS will promote compact, mixed-use commercial and residential development that is walkable, bikeable, and close to mass transit, jobs, schools, shopping, parks, recreation, and other amenities.

Local

Alameda County Transportation Commission (ACTC)

The ACTC was formed in 2010 by the merging of the Alameda County Congestion Management Agency (ACCMA) and the Alameda County Transportation Improvement Authority (ACTIA). ACTC is currently in the process of assuming the duties of both organizations. ACCMA was originally adopted in 1991, and updated in 2013. Local agencies are required by State statute to conform to the Congestion Management Program (CMP). CMP requirements for the Alameda County region are delineated in the 2013 CMP Update. One of the primary functions of the ACCMA was to monitor the regional transportation system through LOS performance.

City of Newark

The City of Newark's General Plan Transportation Element (2013) includes various goals and policies related to the transportation network operations resulting from planned development within the City. The relevant General Plan goals and policies are listed below.

GOAL T-1: Plan, fund, design, construct, operate, and maintain all transportation improvements to provide mobility for all users, appropriate to the function and context of each facility.

Policy T-1.1: **Improving Travel Mobility for All.** Create and maintain "complete" streets that provide safe, comfortable, and convenient travel for all categories of users, including pedestrians, bicyclists, transit riders and operators, movers of commercial goods and freight, emergency responders, children, youth, seniors, and persons with disabilities.

Policy T-1.4: **Connections to the Regional Street Network.** Improve the safety, convenience, and connectivity of existing streets across jurisdictional boundaries and to the regional transportation network.

Policy T-1.6: **Traffic Calming.** Use traffic design features and traffic calming techniques to improve safety and maintain the quality of life in Newark neighborhoods. Traffic calming should be incorporated into urban design and streetscape plans so that a safer environment is provided for all users.

GOAL T-2: Create a citywide pedestrian and bicycle network that provides safe access to destinations within the city, connects to an integrated regional network, and is accessible to users of all ages, abilities, and means.

Policy T-2.1: **Promoting Bicycling and Walking.** Promote bicycling and walking as viable modes of transportation for everyday trips as well as for recreation to increase the number of people of all ages, abilities, and means who bicycle and walk.

Policy T-2.2: **Pedestrian Facilities.** Work to close gaps in the pedestrian network and improve sidewalk connectivity between residential and commercial areas. Develop curbs, gutters, sidewalks on all remaining Newark streets not yet fully improved to encourage safe, convenient pedestrian travel. Where appropriate, include marked crosswalks at intersections and install pedestrian countdowns at traffic signals to facilitate safe pedestrian movement across City streets.

Policy T-2.3: **Bicycle Network.** Maintain and expand an interconnected network of bicycle routes, paths and trails, serving the City's neighborhoods, shopping districts, workplaces, and park and open space areas. The existing bicycle network should be expanded to provide connections to developing areas, including the Dumbarton TOD, the Southwest Residential and Recreational Project, Old Town Newark, and the NewPark Mall vicinity.

Policy T-2.5: **Connecting to the Region.** Develop bicycle and pedestrian facilities that connect across City boundaries, integrate with larger regional systems, and improve intermodal connections to local and regional public transportation systems.

Policy T-2.6: **Pedestrian and Bicycle Provisions within New Development.** Ensure safe and convenient pedestrian and bicycle access to and through new public and private developments. The City will use the development review process to ensure—and where appropriate to require—provisions for pedestrians and bicycles in new development areas.

Policy T-2.9: **Recreational Trails**. Develop and maintain trails in parks and open space areas, and between Newark neighborhoods and the City's open spaces.

Policy T-2.12: **Trails Along Railroads and Utilities.** Consider the use of railroad, flood control, and utility ROW for jogging, biking, and walking trails, provided that safety and operational issues can be fully addressed.

Such trails may be considered where the ROW is sufficiently wide to address safety considerations, and where a trail project would not interfere with railroad, flood control, or utility operations.

GOAL T-3: Support safe, affordable public transportation which provides an alternative means of travel through Newark and convenient access to destinations throughout the Bay Area.

Policy T-3.1: **Improving Transit Services.** Work collaboratively with BART, AC Transit, VTA, other agencies, and the private sector to provide an improved transit system serving persons who live in Newark, work in Newark, and visit Newark. Transit should have service frequencies (headways) of no more than 20 minutes at high ridership locations.

Policy T-3.2: **Transit Diversity.** Support a variety of transit types within the City, including local bus service within Newark, express bus service linking Newark to regional destinations, and future shuttle or circulator service to BART, ACE, and other rail transit facilities.

Policy T-3.4: **Transbay Service.** Support implementation of the Dumbarton Rail project between Newark and the Peninsula. Continued express bus service across the Dumbarton Bridge should be supported as an interim measure, but not as an ultimate replacement of the rail service.

Policy T-3.7: **Transit Stops.** Coordinate with transit providers to maintain a safe, clean, comfortable, and well-lit waiting environment at all transit stops and bus shelters within the City.

GOAL T-4: Reduce vehicle miles traveled and dependency on motor vehicles through land use and transportation strategies.

Policy T-4.1: **Coordinating Land Use and Transportation.** Support land use choices and transportation investments which result in a community that is more walkable and serviceable by public transportation. Land use and development decisions should reflect the existing and planned capacity of Newark's transportation system.

Policy T-4.2: **Transit-Oriented Development (TOD).** Require that the densities and intensities of development in the vicinity of major transit hubs are high enough to capitalize on the investment that has been made in transit and to encourage and support transit use.

Policy T-4.3: **Co-Location of Housing and Services.** Locate higher density housing and senior housing close to shopping, medical facilities, senior centers, and public transportation as a way of reducing trip lengths and increasing transportation options for residents of such developments.

Policy T-4.4: **Mixed-Use Development.** Encourage mixed-use development (such as housing over retail uses) as a way of making it easier to live, work, and shop without owning a car, and as a strategy for reducing the number and length of vehicle trips.

Policy T-4.6: **Transportation Systems Management.** Require new commercial and office development to implement Transportation System Management (TSM) measures to reduce trip generation and/or pay for traffic improvements through impact fees or assessment district financing.

Consistent with State requirements, the City has adopted a TSM Ordinance to manage employment-related travel demand. Revisions to the Ordinance may be considered in the future to ensure that it reflects current issues and priorities.

GOAL T-5: A safe, efficient, and well maintained network of roadways that facilitates vehicle travel in and around the City.

Policy T-5.4: **Level of Service Standards.** Strive for LOS "D" or better at all major intersections in Newark. It is recognized that lower levels of service are projected at some intersections due to future increases in local and regional traffic. Decreases in the desired LOS may be acceptable at certain intersections due to conditions beyond the City's control, or to achieve other mobility and economic development objectives.

These other objectives might include improved conditions for pedestrians and bicycles, slower speeds to improve safety, higher aesthetic quality, more dynamic workplaces and increased employment, and protection of neighborhoods from non-local traffic.

Policy T-5.5: **Transportation Improvements.** Regularly evaluate the need for transportation improvements to maintain satisfactory levels of service on Newark streets. These needs should be expressed in the City's Capital Improvement Plan (CIP) that is updated biennially. The CIP should be considered when determining traffic impact fees and necessary improvements when development takes place.

Policy T-5.6: **Right-of-Way Reservation.** Ensure that adequate ROW is reserved for future transportation projects, consistent with the General Plan Transportation Diagram.

When a property owner along an arterial or collector street requests development approval, the City may require the dedication of public use easements or ROW to allow for eventual improvement of the road in conformance with adopted City policies and standards. Similarly, when new roads are developed, the City may require landscaped easements along these roads to retain to retain the flexibility for future widening or other transportation improvements.

Policy T-5.7: **Connectivity.** Encourage connectivity in the street system by avoiding dead-end streets and cul-de-sacs and reducing the distance that must be traveled to reach the arterial and collector street system. Where feasible in new high density developments, City streets should form a grid pattern, or a modified grid that facilitates easy circulation.

Policy T-5.8: **Transportation Efficiency.** Undertake transportation improvements which manage existing lane capacity more efficiently and reduce the need to widen roads or add travel lanes. Such improvements could include signal interconnect projects along major street corridors, directional signage, left turn restrictions, and similar measures.

Policy T-5.9: **Emergency Access.** Improve the street system as necessary to facilitate emergency vehicle response and to provide multiple route options in the event a road is blocked by an emergency or is otherwise made impassable.

Policy T-5.11: **Hazardous Street Conditions.** Identify and correct any hazardous street conditions, including obstructed sight lines, on a regular basis.

GOAL T-6: Ensure that the City is well connected to the regional road, rail, air, and port systems, in support of local economic development and mobility goals.

Policy T-6.10: **Construction Traffic.** Require that major new construction projects provide traffic control measures which limit major truck trips during peak hours and ensure that the impact of trucks and other heavy vehicles on local streets is minimized and mitigated.

4.10.3 Environmental Analysis

This section presents an analysis of the potential transportation-related impacts of the proposed project. The applicable guidelines for the determination of significant impacts are provided below, followed by an analysis of potential transportation-related impacts under the Existing Plus Project Buildout scenario, as well as the Year 2035 scenario, from the Dumbarton TOD Specific Plan EIR (RBF 2011).

Significance Thresholds

This section outlines the criteria used to determine the significant project-related impacts to intersections within the jurisdiction of the City. The specific significance thresholds used in the evaluation of potential impacts from implementation of the proposed project are derived from Appendix G of the State CEQA Guidelines and the Dumbarton TOD Specific Plan EIR.

The proposed project would have a significant impact on transportation/traffic if it would:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways, and freeways, pedestrian and bicycle paths, and mass transit;
- Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;

- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- Result in inadequate emergency access; and
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Two of the following criteria were used to determine the significant project-related impacts to intersections within the jurisdiction of the City. Application of the specific significance criteria is based on the jurisdictional location of the subject roadway facility and discussions with City staff. For purposes of this SEIR, the Specific Plan would result in significant adverse impacts if it would cause any of the six thresholds identified in items 2 through 7 to be exceeded:

1. Signalized intersection operations to:
    a. Degrade from LOS C or better under Existing Conditions to LOS D, E, or F under Project Conditions in either peak-hour; or
    b. Exacerbate LOS D, E, or F operations by increasing the average delay at an intersection by four (4) or more seconds under Project Conditions.
2. An increase of 100 or more peak-hour vehicles trips on roadway segments on the Metropolitan Transportation System (MTS), and roadway segment operations to degrade from LOS E or better under Existing Conditions to LOS F under Project Conditions (or an increase of 0.02 or more in the V/C ratio on a segment already operating at LOS F under Existing Conditions;
3. A conflict with adopted plans, policies, or programs supporting transit service or bicycling or pedestrian facilities;
4. An increase in transit demand that cannot be accommodated by existing or planned transit capacity;

    Based on analysis in the Dumbarton TOD Specific Plan EIR, impacts associated with the following thresholds were determined to be less than significant for the Specific Plan (including the proposed project), and no further analysis is provided.

5. Overcrowding on public sidewalks, creation of hazardous conditions for pedestrians, or elimination of pedestrian access to adjoining areas;

    The Specific Plan was determined not to have a significant impact related to a potential increase in pedestrian activity within the Specific Plan area, and to/from the surrounding roadway network.

6. Creation of hazardous conditions for bicyclists, or elimination of bicycle access to adjoining areas; or

The Specific Plan was determined not to have a significant impact related to an increase of bicycle activity with the Specific Plan area, and to/from the surrounding roadway network. The Specific Plan proposes to provide a bicycle network throughout the Specific Plan area using both the internal street network and multi-use trails. Designated bicycle lanes would be provided on Enterprise Drive, Willow Street, and Central Avenue. Additionally, multi-use trails that connect to the San Francisco Bay Trail and travel along the perimeter of the Specific Plan area were proposed to be added as a project feature.

7. Creation of an operational safety hazard.

   The design for projects within the Specific Plan would include the construction of roads in accordance with the City's General Plan and acceptable engineering practices. Sharp curves, insufficient sight distances, inadequate street widths, and dangerous intersections, among other issues, would not be constructed as part of the project. For this reason, operational safety hazards would not be created and less than significant impacts would occur.

Summary of Findings from the Dumbarton TOD Specific Plan EIR

Traffic impacts are discussed in Chapter 4.14 of the Dumbarton TOD Specific Plan EIR (RBF 2011). The Specific Plan EIR concluded that implementation of the Specific Plan would result in direct impacts to the operating conditions of 4 intersections and cumulatively significant impacts to the operating conditions of 10 intersections (including the same 4 intersections that are directly impacted). Several segments of two regional roadways (i.e., I-880 and Thornton Avenue) would also operate deficiently as a result of the Specific Plan. In addition, Specific Plan implementation would potentially result in significant impacts on public transit lines in the project area. Mitigation measures were identified in the Specific Plan EIR to mitigate most of these impacts; however, impacts to several intersections would not be reduced to below a level of significance due to mitigation infeasibility.

Impact Analysis

Project Trip Generation

The following section presents project-level trip generation for the Gateway Station West project relative to the trip generation anticipated under the Specific Plan as a whole. This section also includes a summary of updated trip generation estimates for approved and pending projects in the Dumbarton TOD Specific Plan area.

Trip generation was estimated using rates developed by the Institute of Transportation Engineers (ITE) and published in *Trip Generation (9th Edition).* The Gateway Station West Project is estimated to generate approximately 4,400 daily external vehicle trips, 340 and 440 a.m. and p.m. peak hour external vehicle trips, respectively, as shown in Table 4.10-3, *Project Trip Generation*. In comparison, the trip -generation for the approved land uses on the project site is estimated at 4,380 daily external trips, 340 a.m. peak hour trips and 425 p.m. peak hour trips. The Dumbarton TOD Specific Plan EIR estimates that all Specific Plan land uses would generate 14,130 daily external vehicle trips, 1,165 and 1,320 a.m. and p.m. peak hour external vehicle trips, respectively.

Table 4.10-3
PROJECT TRIP GENERATION

Land Use	Units	Daily	a.m. Peak Hour			p.m. Peak Hour		
			In	Out	Total	In	Out	Total
Single-family	321 DU	3,056	60	178	241	202	118	321
Multi-Family	268 DU	1,782	27	109	137	108	58	166
TOTAL		4,838	88	287	377	310	177	487
Internalization		435	8	26	34	28	16	44
Net External Trips		4,403	80	262	343	282	161	443

Source: Fehr & Peers 2015.
Notes: Nine percent of the residential trips would be internal to the Specific Plan area and would reduce the overall trips accordingly.

Based on the above estimates, the Gateway Station West Project's contribution to the overall trips generated by all land uses within the Specific Plan would be 31 percent for a typical weekday, 29 percent for the a.m. peak hour, and 34 percent for the p.m. peak hour. From a land use perspective, the Gateway Station West Project would be about 24 percent of the Specific Plan residential dwelling units contained on 34 percent of the land area designated for residential uses. Therefore, the trips generated by the Gateway Station West property would be slightly greater (approximately one percent daily) than that of the calculated trip generation for the approved land uses for the Specific Plan EIR because the proposed mix of housing types (i.e., single- versus multi-family) under the Gateway Station West Project would modify the trip generation characteristics of the project compared to the approved uses for the site.

Previous entitlements approved within the Dumbarton TOD Specific Plan area (i.e., Torian, Trumark and SHH/FMC projects) have generated similar or fewer trips than analyzed in the Specific Plan EIR (refer to Appendix K for details on the trip generating characteristics of the approved and pending projects). The total combined trip generation of approved and pending entitlements, including the Gateway Station West project, would not exceed the trips assumed in the Specific Plan EIR (Fehr & Peers 2015). Therefore, the proposed project would be expected to result in off-site transportation impacts consistent with the Specific Plan EIR. Those impacts are discussed below, as derived from the Dumbarton TOD Specific Plan EIR (RBF 2011).

Intersections

Based on the analysis conducted in the Dumbarton TOD Specific Plan EIR as shown in Table 4.10-4, *Existing Plus Specific Plan Conditions – Intersection Level of Service*, the Specific Plan, of which the proposed project is a part, would increase traffic and have a direct significant impact on four intersections within the study area under the Existing Plus Specific Plan scenario.

Table 4.10-4
EXISTING PLUS SPECIFIC PLAN CONDITIONS – INTERSECTION LEVEL OF SERVICE

Intersection	Peak Hour	Existing		Existing Plus Specific Plan		Significant Impact
		Delay[a] (Sec)	LOS	Delay[a] (Sec)	LOS	
SR-84 WB Ramps/Thornton Avenue	a.m.	9.5	A	10.7	B	No
	p.m.	6.1	A	7.5	A	No
SR-84 EB Ramps/Thornton Avenue	a.m.	12.3	B	12.6	B	No
	p.m.	13.5	B	16.1	B	No
Gateway Blvd/Thornton Ave	a.m.	16.3	B	13.2	B	No
	p.m.	12.5	B	17.5	B	No
Jarvis Ave/Newark Blvd	a.m.	60.4	**E**	60.6	**E**	No
	p.m.	41.1	**D**	41.8	**D**	No
Cedar Blvd/Newark Blvd	a.m.	24.8	C	25.1	C	No
	p.m.	38.1	**D**	38.8	**D**	No
Lake Blvd/Cedar Blvd	a.m.	12.8	B	13	B	No
	p.m.	13.2	B	13.4	B	No
Willow St/Thornton Ave	a.m.	21.4	C	35.7	**D**	Yes
	p.m.	22.6	C	48.9	**D**	Yes
Spruce St/Thornton Ave	a.m.	16.6	B	21.6	C	No
	p.m.	10.2	B	10.4	B	No
Cherry St/Thornton Ave	a.m.	22.4	C	24.7	C	No
	p.m.	23.6	C	26.5	C	No
Newark Blvd/Thornton Ave	a.m.	22.4	C	23.5	C	No
	p.m.	24.4	C	26.9	C	No
Cedar Blvd/Thornton Ave	a.m.	39.7	**D**	48.4	**D**	Yes
	p.m.	33.7	C	38.2	**D**	Yes

Source: RBF 2011
[a] Average delay in seconds per vehicle.

Because the proposed property would contribute approximately 31 percent of the daily traffic generated within the Specific Plan area and approximately 29 percent for the a.m. peak hour trips and 34 percent for the p.m. peak hour trips, it is assumed that these impacts would be both direct and cumulatively considerable for the Gateway Station West Project. Therefore, based on the stated significance criteria in the Dumbarton TOD Specific Plan EIR, the proposed project would result in significant impacts to the following impacted intersections in the study area.

- Willow Street/Thornton Avenue (p.m. Peak Hour)
- Cedar Boulevard/Thornton Avenue (a.m. and p.m. Peak Hours)
- Willow Street/Enterprise Drive (a.m. and p.m. Peak Hours)
- Cherry Street/Mowry Avenue (a.m. and p.m. Peak Hours)

As described in the Dumbarton TOD Specific Plan EIR and as shown in Table 4.10-5, *Future Year 2035 Conditions – Intersection Level of Service*, implementation of the Specific Plan, including the proposed project, would also contribute considerably to intersection impacts during the Year 2035 scenario.

Table 4.10-5
FUTURE YEAR 2035 CONDITIONS – INTERSECTION LEVEL OF SERVICE

Intersection	Peak Hour	Future Year 2035 No Project		Future Year 2035 Plus Project		Significant Impact
		Delay[a] (Sec)	LOS	Delay[a] (Sec)	LOS	
SR-84 WB Ramps/ Thornton Avenue	a.m.	14.2	B	14.7	B	No
	p.m.	11.1	B	12.1	B	No
SR-84 EB Ramps/ Thornton Avenue	a.m.	12.7	B	13	B	No
	p.m.	25.9	C	37.3	**D**	**Yes**
Gateway Blvd/Thornton Ave	a.m.	15.4	B	16	B	No
	p.m.	21.8	C	44.2	**D**	**Yes**
Jarvis Ave/Newark Blvd	a.m.	>80	**F**	>80	**F**	No
	p.m.	73.9	**E**	75.3	**E**	No
Cedar Blvd/Newark Blvd	a.m.	69.5	**E**	70.9	**E**	No
	p.m.	79.1	**E**	>80	**F**	No
Lake Blvd/Cedar Blvd	a.m.	15.8	B	16	B	No
	p.m.	16.1	B	16.2	B	No
Willow St/Thornton Ave	a.m.	22	C	33.5	C	No
	p.m.	24.4	C	61.5	**E**	**Yes**
Spruce St/Thornton Ave	a.m.	16	B	20.1	C	No
	p.m.	11.8	B	15.1	B	No
Cherry St/Thornton Ave	a.m.	25.8	C	30.5	C	No
	p.m.	42.8	**D**	51.7	**D**	**Yes**
Newark Blvd/Thornton Ave	a.m.	36.9	**D**	45	**D**	**Yes**
	p.m.	63.1	**E**	78.1	**E**	**Yes**
Cedar Blvd/Thornton Ave	a.m.	74.8	**E**	89.4	**F**	**Yes**
	p.m.	123	**F**	136.2	**F**	**Yes**
I-880 SB Ramps/ Thornton Avenue	a.m.	13.5	B	14	B	No
	p.m.	17.4	B	19.2	B	No
I-880 NB Ramps/ Thornton Avenue	a.m.	8.3	A	8.8	A	No
	p.m.	13.8	B	14.5	B	No
Willow St/Enterprise Dr*	a.m.	14.8	B	>55	**F**	**Yes**
	p.m.	14.4	B	>55	**F**	**Yes**
Cherry St/Central Ave	a.m.	30	C	36.5	**D**	**Yes**
	p.m.	28.7	C	39.9	**D**	**Yes**
Cedar Blvd/Central Ave	a.m.	>80	**F**	>80	**F**	No
	p.m.	>80	**F**	>80	**F**	No
Cherry St/Mowry Ave	a.m.	67.4	**E**	79.9	**E**	**Yes**
	p.m.	>80	**F**	>80	**F**	**Yes**
I-880 SB Rams/Mowry Ave	a.m.	11.8	B	11.8	B	No
	p.m.	14.1	B	14.1	B	No
I-880 NB Ramps/Mowry Ave	a.m.	10.3	B	10.9	B	No
	p.m.	34.9	C	35.5	**D**	**Yes**

Source: RBF 2011

[a] Average delay in seconds per vehicle.

The following 10 intersections would have significant impacts during the cumulative Year 2035 scenario. It should be noted that four of these locations would also be directly impacted by the Specific Plan (of which the proposed project is a part) during the Existing Plus Specific Plan scenario.

- SR-84 EB Ramps/Thornton Avenue (p.m. Peak Hour)
- Gateway Boulevard/Thornton Avenue (p.m. Peak Hour)
- Willow Street/Thornton Avenue (p.m. Peak Hour)
- Cherry Street/Thornton Avenue (p.m. Peak Hour)
- Newark Boulevard/Thornton Avenue (a.m. and p.m. Peak Hour)
- Cedar Boulevard/Thornton Avenue (a.m. and p.m. Peak Hour)
- Willow Street/Enterprise Drive (a.m. and p.m. Peak Hour)
- Cherry Street/Central Avenue (a.m. and p.m. Peak Hour)
- Cherry Street/Mowry Avenue (a.m. and p.m. Peak Hour)
- I-880 NB Ramps/Mowry Avenue (p.m. Peak Hour)

Mitigation was provided in the Specific Plan EIR to address the direct and cumulative impacts of Specific Plan implementation outlined above. Refer to Section 4.10.3.4 of this SEIR for an outline of those required measures.

Roads

The ACTC requires analysis of project impacts to the MTS roadways if the proposed project generates more than 100 p.m. peak-hour trips. The trip generation for the Specific Plan, as well as the proposed project, would exceed that threshold (refer to Table 4.10-3). As per the CMP for the MTS, the MTS roadways that the project may affect are I-880, SR-84, and Thornton Avenue.

Based upon the significance criteria described in Section 4.10.3.1, a project is considered to have a significant impact on an MTS roadway if it causes roadway segment operations to degrade from LOS E or better under without project conditions to LOS F under project conditions (or an increase of 0.02 or more in the V/C ratio on a segment already operating at LOS F under Without Project Conditions). As per the CMP, LOS E is considered to be acceptable LOS for MTS facilities. Table 4.10-6, *Level of Service Criteria: CMP Roadway*, summarizes the CMP roadway LOS criteria.

Table 4.10-6
LEVEL OF SERVICE CRITERIA: CMP ROADWAY

Volume-to-Capacity Ratio	LOS
0.35	A
0.58	B
0.75	C
0.90	D
1.00	E
Variable	F

Source: Highway Capacity Manual, Transportation Research Board, 1985.

The ACTC provided the Countywide Transportation Demand Model for Year 2005 to forecast a.m. and p.m. peak-hour roadway segment (link) volumes on the MTS network. The Countywide Model used ABAG Projections' 2007 land use data for Year 2035. The Specific Plan trips were added to the model forecasts. Link volume-to-capacity (v/c) ratios were calculated based upon the model forecasts and summarized in Tables 4.14-16 of the Dumbarton TOD Specific Plan EIR (Year 2035 Congestion Management Program Level of Service Analysis). The link capacities were calculated using the methods outlined in the Highway Capacity Manual (HCM 2000).

All of the roadway segments are projected to operate at LOS E or better with the exception of the following six segments under the Year 2035 No Project Conditions:

- I-880, from SR 84 Eastbound Ramps to Thornton Avenue
    - Northbound - a.m. LOS of D/p.m. LOS of F
    - Southbound - a.m. LOS of F/p.m. LOS of F
- I-880, from Thornton Avenue to Mowry Avenue (a.m. LOS of D/p.m. LOS of F)
    - Northbound - a.m. LOS of C/p.m. LOS of F
    - Southbound - a.m. LOS of F/p.m. LOS of E
- I-880, from Mowry Avenue to Stevenson
    - Northbound - a.m. LOS of C/p.m. LOS of F
    - Southbound - a.m. LOS of F/p.m. LOS of D
- SR 84, from West of Thornton Avenue to Thornton Avenue
    - Eastbound - a.m. LOS of B/p.m. LOS of F
    - Westbound - a.m. LOS of D/p.m. LOS of A
- SR 84, from Thornton Avenue to Newark Boulevard
    - Eastbound - a.m. LOS of B/p.m. LOS of F
    - Westbound - a.m. LOS of F/p.m. LOS of B
- SR 84, from Newark Boulevard to I-880
    - Eastbound - a.m. LOS of B/p.m. LOS of F
    - Westbound - a.m. LOS of E/p.m. LOS of C

With the addition of Specific Plan traffic, three segments would be affected and operate at LOS F. These are:

- Thornton Avenue, from Willow Street to Spruce Street
    - Eastbound - a.m. LOS of D/p.m. LOS of D
    - Westbound - a.m. LOS of C/p.m. LOS of F

- Thornton Avenue, from Spruce Street to Cherry Street
    - Eastbound - a.m. LOS of F/p.m. LOS of E
    - Westbound - a.m. LOS of C/p.m. LOS of F
- Thornton Avenue, from Cedar Boulevard to I-880 Southbound Ramps
    - Eastbound - a.m. LOS of C/p.m. LOS of C
    - Westbound - a.m. LOS of D/p.m. LOS of F

As shown in Table 4.14-16 of the Dumbarton TOD Specific Plan EIR, implementation of the Specific Plan, including the Gateway Station West Project, would affect the aforementioned three segments, causing them to degrade from LOS E or better to LOS F. Two additional segments (I-880 from SR 84 Eastbound to Thornton Avenue and I-880 from Mowry Avenue to Stevenson Boulevard) would experience a V/C increase of 0.02 or more on a segment already operating at LOS F under without project conditions. The following five roadway segments would be affected:

- I-880, from SR 84 Eastbound to Thornton Avenue
- I-880, from Mowry Avenue to Stevenson Boulevard
- Thornton Avenue, from Willow Street to Spruce Street
- Thornton Avenue, from Spruce Street to Cherry Street
- Thornton Avenue, from Cedar Boulevard to I-880 Southbound Ramps

Therefore, the Specific Plan, including the proposed project, would have a significant impact on the five roadway segments listed above.

Pedestrian and Bicycle Circulation and Transit Access

According to the project-specific transportation evaluation (Fehr & Peers 2014), the project site plan would provide adequate pedestrian facilities on the site through the provision of sidewalks along the major circulation features (i.e., Avenues 'A', 'B' and 'C'). Additionally, Class III bicycle facilities would be integrated into the adjacent segment of Hickory Street, partially Class II and partially Class III bike lanes would be integrated into Enterprise Drive, and a Class I separated bike trail is proposed on-site parallel to the western boundary of the site, in accordance with the Dumbarton TOD Specific Plan.

Specifically, the proposed project would construct a new candidate section of the San Francisco Bay Trail that would eventually connect to other trail sections within the project area. A 20-foot-wide easement along the western boundary of the project would contain an 8-foot wide paved section of the candidate Bay Trail, with two 2-foot wide shoulders and an additional 4-foot wide landscaped buffer on either side of the trail. Therefore, the proposed project would implement adopted plans, policies, or programs supporting bicycling or pedestrian facilities.

The Dumbarton TOD Specific Plan EIR identified significant impacts related to an increased demand for public transit lines serving the area as a result of Specific Plan implementation. As

such, the Dumbarton TOD Specific Plan includes Policy C-24 stating: "Where necessary, design streets to accommodate transit services, including bus stops and shelters" (Fehr & Peers 2014). Within the immediate project area, AC Transit's Line 275, a local bus line, has a stop along Willow Street approximately 0.2 mile from the project site. The Specific Plan site plans provide continuous sidewalks from the proposed project site to the location of the bus stop at full build out of the Specific Plan area. As noted above, the Gateway Station West site plan would feature sidewalks, as would the off-site segments of Hickory Street, Enterprise Drive and 'A' Avenue, consistent with the street standards in the adopted Specific Plan.

It should be noted that the Specific Plan area's increased demand for transit service may not be met by the Dumbarton Rail Corridor (DRC) Project, as the future of the DRC project is uncertain due to the lack of funding for the project (City of Menlo Park 2014). As noted above, improved bus service in the Specific Plan area cannot be guaranteed, as it is under Alameda County (AC) Transit's jurisdiction. Therefore, as discussed in the Specific Plan EIR, impacts related to the demand for public transit lines serving the area would be potentially significant and unmitigated. The proposed Gateway Station West Project would contribute to these impacts.

4.10.4 Level of Significance Before Mitigation

The trip generation estimate from the project-specific transportation evaluation (Fehr & Peers 2015) confirms that the proposed project would generate similar trips to the land uses identified for the site within the Specific Plan EIR; development of the proposed project would not result in off-site transportation impacts that were not already identified in the Specific Plan EIR. However, the proposed project would contribute to all of the significant impacts identified in the Specific Plan EIR and described above in Section 4.10.3.2 of this SEIR.

4.10.5 Mitigation Measures

Chapter 4.14 of the Dumbarton TOD Specific Plan EIR identified mitigation measures (MMs) to address identified potentially significant traffic impacts within the Specific Plan area, of which the proposed project is a part. All of the MMs identified in the Specific Plan EIR are relevant to the proposed project and are provided below.

Relevant Direct Mitigation Measures from the Dumbarton TOD Specific Plan

MM 4.14-1:

- *Willow Street/Thornton Avenue:* A right turn overlap phase to the northbound approach on Willow Street shall be provided. Additionally, a U-turn restriction for the westbound left turn movement on Thornton Avenue shall be posted.

- *Cedar Boulevard/Thornton Avenue:* An additional westbound left turn lane from Thornton Avenue to Cedar Boulevard shall be provided.[1]

[1] This mitigation measure has been identified to be infeasible due to lack of available ROW for the additional westbound lane.

- *Willow Street/Enterprise Drive:* Two options for mitigation at this intersection are proposed by the Specific Plan, including a roundabout or signalization of the intersection. One of the two options shall be implemented.[2]

- *Cherry Street/Mowry Avenue:* Mitigation measures were identified at this intersection as part of the Area 3 and 4 EIR. The measures proposed included the addition of a second left-turn lane on the westbound approach, and resulting in realignment of the east and westbound approaches and modification to the traffic signal. These improvements are not sufficient to mitigate the project's impact; additional ROW to widen this approach may be needed. Therefore, additional mitigation measures were identified:

    - The westbound approach of the intersection of Cherry Street/Mowry Avenue shall be modified to include a right turn and a through-right turn lane. This improvement would require modification of the traffic signal and removal of the existing pork chop island.

MM 4.14-2:

The City shall coordinate with AC Transit to improve bus service to the Specific Plan area to lessen the impact of vehicular traffic on the local and regional roadways. Potential transit accommodations may include:

- Implementation of shuttle service to the Ardenwood Park and Ride lot to provide a connection to the Dumbarton Express bus line and the Fremont and/or Union City BART stations

- Rerouting bus lines 251 and/or 275 through the Specific Plan area to provide convenient stop(s) with bus shelters and benches

- Addition of a new bus line to serve the Specific Plan area

Relevant Cumulative Mitigation Measures from the Dumbarton TOD Specific Plan

MM 4.14-6:

- *SR 84 Eastbound Ramps/Thornton Avenue:* An additional eastbound right turn lane on the SR 84 Eastbound Off-Ramp at the intersection of SR 84 Eastbound Ramps/Thornton Avenue shall be provided

- *Gateway Boulevard/Thornton Avenue:* The northbound right turn lane on Thornton Avenue at the intersection of Gateway Boulevard/Thornton Avenue shall be restriped to provide a shared through-right turn lane. The existing north leg has three receiving lanes to make this improvement feasible.

[2] Since circulation and certification of the Dumbarton TOD Specific Plan EIR, the potential for signalization of this intersection has been eliminated. Mitigation would consist of roundabout implementation.

- *Willow Street/Thornton Avenue:* Mitigation for cumulative impacts will be addressed through implementation of the mitigation required for direct impacts at this intersection, as described in MM 4.14-1.

- *Cherry Street/Thornton Avenue:* The intersection of Cherry Street/Thornton Avenue shall have an additional eastbound right turn lane on Thornton Avenue.

- *Newark Boulevard/Thornton Avenue:* The intersection of Newark Boulevard/Thornton Avenue shall have an additional northbound left turn lane on Newark Boulevard to accommodate the heavy left turn movement.

- *Cedar Boulevard/Thornton Avenue* Mitigation for cumulative impacts will be addressed through implementation of the mitigation required for direct impacts at this intersection, as described in MM 4.14-1.

- *Willow Street/Enterprise Drive:*. Mitigation for cumulative impacts will be addressed through implementation of the mitigation required for direct impacts at this intersection, as described in MM 4.14-1. While a single-lane roundabout would operate acceptably with the proposed traffic volumes, right-turn bypass lanes may be provided to/from the west leg to connect to the four-lane section of Enterprise Drive west of the intersection.

- *Cherry Street/Central Avenue:* The intersection of Cherry Street/Central Avenue shall have an additional eastbound right turn lane on Central Avenue.

- *Cherry Street/Mowry Avenue:* Mitigation for cumulative impacts will be addressed through implementation of the mitigation required for direct impacts at this intersection, as described in MM 4.14-1.

- *I-880 NB Ramps/Mowry Avenue*: The intersection of I-880 NB Ramps/Mowry Avenue shall be restriped to include a left/right share lane, resulting in the northbound approach having a final lane configuration of a left-turn lane, a left and right shared lane, and dual right-turn lanes.

  If restriping of the intersection is not achievable, an alternate mitigation shall be to revise the City's General Plan policy to permit LOS D operations at freeway ramp intersections with existing or proposed bicycle facilities. Currently, City General Plan Policy 3d states that the City should "Work with the State and City of Fremont to maintain LOS "C" at all intersections on the border of Newark, particularly Newark Boulevard/Dumbarton Freeway, Thornton Avenue/Dumbarton Freeway, Stevenson Boulevard/Interstate 880, Mowry Avenue/Interstate 880 and Thornton Avenue/Interstate 880, to accommodate buildout of lands in Fremont and Newark in the vicinity of the intersections." Additionally, General Plan Policy 2e supports completion of the Citywide Bicycle Master Plan, which may include new bicycle lanes on Mowry Avenue through the I-880 interchange. In order to recognize that automobile traffic operations should be balanced with bicycle access and pedestrian access across the interchange, General Plan Policy 3d may be amended in the following way to promote access for all travel modes: "Work with the State and City of Fremont to maintain LOS "C" at all intersections on the border of Newark, particularly Newark Boulevard/Dumbarton Freeway, Thornton Avenue/

Dumbarton Freeway, Stevenson Boulevard/Interstate 880, Mowry Avenue/Interstate 880 and Thornton Avenue/Interstate 880, to accommodate buildout of lands in Fremont and Newark in the vicinity of the intersections, except at intersections that are along the City's proposed Bikeway Network where automobile LOS D is permitted." Revision of the City's General Plan to permit LOS D at freeway interchange intersections along the proposed bicycle network would reduce this impact to less than significant.

MM 4.14-8: Prior to issuance of building permits for a Specific Plan use, the applicant shall pay all applicable transportation-related fees in accordance with the latest adopted fee schedule at the time permits are sought. Such fees shall include, but not be limited to, the City of Newark Capital Facilities Fee for Transportation, and the ACTC Regional Transportation Impact Fee. Payment of these fees would partially mitigate the impacts of the Specific Plan.

4.10.6 Level of Significance After Mitigation

With the implementation of the proposed MMs from the Dumbarton TOD Specific Plan EIR (as modified during subsequent design to eliminate the potential for signalization at the Willow Street/Enterprise Drive intersection with proposed implementation of a roundabout; see MMs 4.14-1 and 4.14-6), many of the significant impacts identified in the Specific Plan EIR (and applicable to the proposed project) would be reduced to less than significant levels. Some direct and cumulative impacts would remain significant and unavoidable for reasons outlined below in this section.

Direct Impacts of Specific Plan

The addition of Specific Plan traffic to existing conditions would cause intersection LOS at Cedar Boulevard/Thornton Ave to degrade from acceptable to unacceptable during the p.m. peak hour and exacerbate operations by increasing the average delay by four or more seconds during the a.m. peak hour. Due to the limited ROW available along Thornton Avenue and potential secondary impacts (such as increased pedestrian crossing distances), the proposed mitigation (an additional westbound left turn lane from Thornton Avenue to Cedar Boulevard) required in MMs 4.14-1 is not feasible. For this intersection, the impact would remain significant and unavoidable.

As the future of the DRC Project is uncertain and improved bus service to the Specific Plan area cannot be guaranteed (as it is under Alameda County Transit's jurisdiction) as required in MM 4.14-2, this impact would remain significant and unavoidable. As noted in Section 5.3.2, *Land Use/Planning*, of this SEIR, the current City General Plan (as amended during adoption of a Dumbarton TOD Specific Plan), allows LOS that would otherwise be considered unacceptable where projects are part of the City's regional effort to reduce vehicle trips and greenhouse gas emission, support transit and enhance the quality of life in the region, as is the case with the proposed project.

Cumulative Impacts of the Specific Plan

The addition of Specific Plan traffic to future year 2035 conditions would cause intersection LOS to degrade from acceptable to unacceptable or exacerbate operations by increasing the average

delay by four or more seconds (with impacts being unmitigable) at a number of intersections: While the impacts at four other affected intersections could be reduced to less than significant levels with the implementation of mitigation measures, the mitigation measures proposed for five intersections would not be feasible (for example, as described in the Specific Plan EIR Section 4.14.4.8, because an intersection is outside of the City's jurisdiction, or because limited ROW is available at the intersection to allow for roadway improvements). Impacts to these five intersections would remain cumulatively significant and unavoidable:

- SR 84 Eastbound Ramps/Thornton Avenue
- Cherry Street/Thornton Avenue
- Newark Boulevard/Thornton Avenue
- Cedar Boulevard/Thornton Avenue
- Cherry Street/Central Avenue

The addition of project traffic to future year 2035 conditions would degrade operations on the following five roadway segments: I-880, from SR 84 Eastbound to Thornton Avenue; I-880, from Mowry Avenue to Stevenson Boulevard; Thornton Avenue, from Willow Street to Spruce Street; Thornton Avenue, from Spruce Street to Cherry Street; and, Thornton Avenue, from Cedar Boulevard to I-880 Southbound Ramps. Mitigation in the form of the applicant paying all applicable transportation-related fees prior to issuance of building permits for a Specific Plan use would be required; however, payment of these fees would only partially mitigate the impacts of the Specific Plan. The MMs proposed to reduce impacts to roadway segments would not be feasible (for example, as described in the Specific Plan EIR Section 4.14.4.8, because a roadway is outside of the City's jurisdiction, or because limited ROW is available to allow for roadway improvements such as lane addition or widening); additionally, the fee programs would not fully fund all the mitigation necessary. The cumulative impacts to these five roadway segments would remain significant and unavoidable. As noted above, the City General Plan allows LOS that would otherwise be considered unacceptable where projects are part of the City's regional effort to reduce vehicle trips and greenhouse gas emission, support transit and enhance the quality of life in the region, as is the case with the proposed project.

Section 5.0

OTHER CEQA CONSIDERATIONS

5.0 OTHER CEQA CONSIDERATIONS

5.1 CUMULATIVE EFFECTS

5.1.1 Introduction

Section 15355 of the State CEQA Guidelines defines cumulative impacts as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." These individual effects may entail changes resulting from a single project or from a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the proposed project when added to other past, present and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects occurring over a period of time.

Section 15130 of the State CEQA Guidelines requires that an EIR discuss the cumulative impacts of a project when the project's incremental effect would potentially be cumulatively considerable. Cumulatively considerable means that the incremental effects of the individual project are considerable when viewed in connection with the effects of past projects, other current projects and the effects of probable future projects (State CEQA Guidelines Section 15065[c]). Where a lead agency determines the project's incremental effect would not be cumulatively considerable, a brief description of the basis for such a conclusion must be included. In addition, the State CEQA Guidelines allow for a project's contribution to be rendered less than cumulatively considerable with implementation of appropriate mitigation.

The geographic scope of the cumulative impact analysis varies depending on the specific environmental issue being analyzed. The geographic scope for each environmental issue analyzed is identified in each topical section of this chapter.

According to Section 15130(b) of the State CEQA Guidelines, there are two possible approaches for considering cumulative effects:

1. A list of past, present and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or,

2. A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated region- or area-wide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.

In the case of the Gateway Station West Project's cumulative analysis, the SEIR relies on the second approach wherein a summary of projections contained in an adopted plan, in this case the Dumbarton TOD Specific Plan EIR, which was incorporated into the General Plan updated in 2013.

The Dumbarton TOD Specific Plan EIR concluded that implementation of the Specific Plan, of which the project is a part, would result in significant impacts to air quality, biological resources, cultural resources, geology/soils, greenhouse gas emissions, hazards/hazardous materials,

hydrology/water quality, noise, public services, utilities and service systems (wastewater), and transportation/traffic (RBF 2011). By definition, these impacts are generally cumulative in nature because they assume full buildout of the Specific Plan, including all of its parts. Measures contained in the Specific Plan EIR would be implemented to reduce these cumulative impacts to less than significant levels for the Specific Plan overall, with the exception of transportation/circulation which would result in cumulatively significant and unmitigable impacts due to the infeasibility of several of the recommended mitigation measures (refer to Section 4.10, *Transportation and Traffic,* of this SEIR for additional discussion on the cumulative traffic impacts). A new cumulative vehicular noise impact to uses adjacent to Enterprise Drive was identified during analysis for the current proposed project. Mitigation is also proposed which would lower the project-related cumulative impact to a less than considerable contribution, and a less than significant impact.

The Gateway Station West Project would slightly adjust the planned land uses on site, resulting in the residential unit count being less than the planned development intensity within the Dumbarton TOD Specific Plan for the property, as described in Section 3.0, *Project Description*. Therefore, and similar to the Specific Plan analysis, the project's incremental contribution to the cumulative impacts resulting from the Dumbarton TOD Specific Plan implementation generally would be less than significant upon implementation of the mitigation measures recommended the Specific Plan EIR, as well as those specified in Section 4.0, *Environmental Analysis,* of this SEIR. One exception relates to transportation/circulation wherein the project would represent 31 percent of the trips, resulting in assessment of a considerable contribution to cumulatively significant and unmitigable impacts. Nonetheless, the proposed project would not result in new or different unmitigable cumulative impacts than those identified in the Specific Plan.

Many of the measures recommended to mitigate impacts of the Specific Plan are incorporated into this SEIR due to their ability to address the project's contribution to those cumulative impacts. Refer to Section 4.0, *Environmental Analysis,* for listings of the specific mitigation measures by resource area or discipline. Except for transportation/circulation, all of the proposed project's incremental contribution to cumulative impacts would be less than considerable upon implementation of those measures. This conclusion is consistent with the Dumbarton TOD Specific Plan EIR.

5.2 SIGNIFICANT AND UNAVOIDABLE IMPACTS

According to State CEQA Guidelines Section 1526.2(b), an EIR must include a description of significant impacts, including those which can be mitigated but not reduced to below a level of significance. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons why the project is being proposed, notwithstanding their effect, should be described.

Based on the assessment in the Dumbarton TOD Specific Plan EIR as well as the project-specific analysis herein, implementation of the Specific Plan, of which the proposed project is a part, would result in significant and unavoidable hazards and hazardous materials impacts and cumulative impacts to transportation/circulation. All of the other project-level impacts would be mitigated through the implementation of relevant measures from the Specific Plan EIR or project-specific measures recommended in this SEIR. The only new or different unavoidable

impacts than those of the Specific Plan would be those associated with hazards and hazardous materials (refer to Section 4.7, *Hazards and Hazardous Materials*).

It should be noted with regard to the significant and unavoidable transportation/circulation impacts associated with Specific Plan buildout, a General Plan Amendment was processed with the City's adoption of the Specific Plan to allow an unacceptable LOS at major and other intersections for projects that are part of the City's regional effort to reduce vehicle trips and greenhouse gas emissions, support transit and enhance the quality of life in the region. With adoption of the General Plan Amendment, the Specific Plan was determined to be consistent with the General Plan policy pertaining to transportation/circulation.

5.3 EFFECTS FOUND NOT TO BE SIGNIFICANT

This section of the EIR addresses those environmental issues from the CEQA checklist (State CEQA Guidelines Appendix G), for which no significant environmental impacts are anticipated, with respect to the proposed project. Section 15128 of the State CEQA Guidelines requires that an EIR contain a brief statement of the reasons that certain issues have been identified during the environmental review process as having no, or no significant, project-related impacts and are therefore not addressed in detail in the EIR.

A number of issues were determined to be less than significant without mitigation in the Dumbarton TOD Specific Plan EIR, including land use and planning and population and housing. In addition, agriculture/forest resources and mineral resources issues were excluded from detailed review in Specific Plan EIR through the scoping process because it was determined, based on substantial evidence in the record, that the Specific Plan would have no impacts in these areas (RBF 2011). That prior analysis is hereby incorporated by reference pursuant to Section 15150 of the State CEQA Guidelines. The Gateway Station West Project's consistency with the Specific Plan, in terms of the geographic limits and the planned development intensity, make these conclusions still applicable to the project-level environmental analysis and these issues are not reevaluated in this SEIR.

Although not analyzed in the Specific Plan EIR and identified as a potentially significant impact in the proposed project's CEQA Initial Study contained in Appendix A, it was subsequently determined that the project's impacts to energy would be less than significant based on substantial evidence presented herein. In addition, consistent with the Dumbarton TOD Specific Plan EIR, it was determined that the proposed project would not result in significant land use impacts, as described below.

5.3.1 Energy

State CEQA Guidelines Appendix F, *Energy Conservation*, provides direction as to the type of information, analysis, and mitigation that should be considered in evaluating a project, but does not provide specific energy conservation thresholds. For the purposes of this SEIR, and in accordance with Appendix F of the State CEQA Guidelines and recent case law, the project would result in a significant impact to energy conservation if it would: (1) cause wasteful, inefficient, and unnecessary consumption of energy during project construction, operation, and/or maintenance; and/or (2) conflict with or exceed the California Building Code (CBC)

Energy Efficiency Standards, the City *General Plan Conservation and Sustainability Element* goals, the Bay Area Clean Air Plan policies or any other applicable energy conservation regulations.

As acknowledged in the General Plan EIR, increased energy demands would occur due to construction, lighting, heating, and cooling of residences, and transportation of people within, to, and from Newark (City 2013). However, the General Plan includes numerous policies and actions to encourage energy and water conservation, alternative energy use, waste reduction, alternatives to automotive transportation, and green building. Additionally, the General Plan includes policies and actions that seek to reduce vehicle miles travelled. The City uses these policies and actions to ensure that staff are evaluating applications with these guidelines in mind, and facilitating project compliance with these policies and actions as appropriate. Implementation of these energy saving policies and actions would minimize consumption of fossil fuels that would occur during buildout of the General Plan, such as the Dumbarton TOD Specific Plan. General Plan actions and policies for which the proposed project would strive to comply with would include the following:

Policy CS-5.1: Linking Land Use and Transportation. Encourage land use and transportation patterns that reduce dependence on automobiles. This includes siting well-designed higher-density, mixed-use development near the proposed Dumbarton Rail station and in other areas with frequent transit service.

Policy CS-5.2: Pedestrian and Bicycle Friendly Design. Ensure that new development is planned and designed to facilitate walking and bicycling as well as driving. This can potentially reduce the number of vehicle trips and related GHG emissions.

Policy CS-6.2: Encouraging Greener Construction. Encourage greener construction methods and greater use of recycled-content materials in new residential, commercial, and industrial construction projects.

Action CS-6.B: *Green Building Incentives.* Implement green building programs as called for by the Newark Climate Action Plan, including use of the Green Points certification program and the Multi-family Green Retrofit Fund.

Action CS-6.C: *Green Building Information*. Make information on green building practices and programs available to Newark homeowners, builders, contractors, business owners, and developers.

Action CS-6.D: *Green Certifications*. Provide resources and checklists to builders and contractors seeking to obtain green certifications through the City's Building Department.

Policy CS-7.1: Reducing Energy Use. Support measures to reduce energy consumption and increase energy efficiency in residential, commercial, industrial, and public buildings.

Policy CS-7.2: Renewable Energy Sources. Support the expanded use of renewable energy sources such as wind and solar by Newark residents and businesses, the City of Newark, and other government agencies.

Policy CS-7.3: Designing for Energy Efficiency. Support building design, site planning, and subdivision design methods that reduce heating and cooling costs and achieve greater energy efficiency.

Policy CS-7.5: Solar Access. Preserve solar access rights in a way that is consistent with state law, encourages the use of photovoltaic energy systems in new construction and rehabilitation projects, and balances parallel objectives to expand the urban forest and protect local trees.

Policy T-1.1: Improving Travel Mobility for All. Create and maintain "complete" streets that provide safe, comfortable, and convenient travel for all categories of users, including pedestrians, bicyclists, transit riders and operators, movers of commercial goods and freight, emergency responders, children, youth, seniors, and persons with disabilities.

Policy T-2.1: Promoting Bicycling and Walking**.** Promote bicycling and walking as viable modes of transportation for everyday trips as well as for recreation to increase the number of people of all ages, abilities, and means who bicycle and walk.

Policy T-2.3: Bicycle Network. Maintain and expand an interconnected network of bicycle routes, paths and trails, serving the City's neighborhoods, shopping districts, workplaces, and park and open space areas. The existing bicycle network should be expanded to provide connections to developing areas, including the Dumbarton Transit-Oriented Development (TOD), the Southwest Residential and Recreational Project, Old Town Newark, and the New Park Mall vicinity.

Policy T-2.5: Connecting to the Region. Develop bicycle and pedestrian facilities that connect across City boundaries, integrate with larger regional systems, and improve intermodal connections to local and regional public transportation systems.

Policy T-2.6: Pedestrian and Bicycle Provisions within New Development. Ensure safe and convenient pedestrian and bicycle access to and through new public and private developments. The City will use the development review process to ensure—and where appropriate to require—provisions for pedestrians and bicycles in new development areas.

Policy T-4.1: Coordinating Land Use and Transportation. Support land use choices and transportation investments which result in a community that is more walkable and serviceable by public transportation. Land use and development decisions should reflect the existing and planned capacity of Newark's transportation system.

Policy T-4.2: Transit-Oriented Development. Require that the densities and intensities of development in the vicinity of major transit hubs are high enough to capitalize on the investment that has been made in transit and to encourage and support transit use.

Policy T-4.3: Co-Location of Housing and Services. Locate higher density housing and senior housing close to shopping, medical facilities, senior centers, and public transportation as a way of reducing trip lengths and increasing transportation options for residents of such developments.

Additionally, the City has prepared and adopted a Climate Action Plan (CAP; City 2010a), which is designed to reduce greenhouse gas emissions, including those generated by energy sources.

One of the most applicable regulatory requirements for the project is the California Green Building Standards Code (24 CCR, Part 11, which is a code with mandatory requirements for new residential and nonresidential buildings (including buildings for retail, office, public schools and hospitals) throughout California (outlined in Section 4.6, *Greenhouse Gas Emissions*, of this SEIR). The current version of the code went into effect on July 1, 2014, and includes energy efficiency updates resulting in energy usage reductions of 25 percent for residential buildings and 30 percent for nonresidential building (CEC 2012). The code is Part 11 of the California Building Standards Code in Title 24 of the California Code of Regulations and is also known as the CALGreen Code (CBSC 2014). As such, CALGreen established planning and design standards for sustainable site development and energy efficiency.

Various sources of energy usage are associated with the project, including energy usage associated with construction and operation of buildings (natural gas, purchased electricity), water consumption (energy embodied in potable water), solid waste management (including transport and landfill gas generation), and vehicles. As described in Section 1.0, *Introduction*, the proposed Dumbarton TOD Specific Plan is part of a regional effort to reduce vehicle trips, support transit and enhance the quality of life in the region. As such, the Gateway Station West project proposes to incorporate several features to ensure the project's energy consumption is reduced to the maximum extent feasible. These features include several requirements of the CALGreen and Green Point Rated Program that would increase energy efficiency and include, but are not limited to, the following:

- Energy efficiency of at least 20 percent beyond Title 24
- Sustainably designed plumbing systems and low-flow water fixtures
- Efficient mechanical and electrical equipment, appliances, and lighting fixtures.
- Natural gas fireplaces
- Shade trees in parking areas and throughout project site
- Cool roof materials (albedo/reflectivity greater than or equal to 30)
- Smart meters and programmable thermostats

- Roof anchors and wiring for solar panel installations
- Residences are within walking distance (0.25-mile) of a proposed transit station
- Maximum interior daylight
- Secure bike parking (at least 1 bicycle space per 20 vehicle spaces)
- Information on transportation alternatives would be provided to the residents (i.e., bike maps and transit schedules)

With these energy conservation design features integrated, the project's demand for energy sources would be minimized to the extent feasible. In addition, the project would be required to comply with the greenhouse gas reduction mitigation measure from the Specific Plan EIR which would effectively reduce energy consumption (refer to Section 4.6 of this SEIR). Furthermore, many of these design features would implement the actions and policies of the *General Plan Conservation and Sustainability Element* pertaining to energy conservation (noted above). Thus, the proposed Gateway Station West project would not require excessive amounts of energy, require use of new sources of energy, or conflict with any adopted energy conservation plans, and therefore would result in less than significant energy impacts.

5.3.2 Land Use/Planning

Land Use/Planning issues are addressed in Chapter 4.9 of the Dumbarton TOD Specific Plan EIR, which concludes that less than significant land use and planning impacts would arise upon implementation of the Specific Plan. According to Appendix G of the State CEQA Guidelines and the Specific Plan EIR, a project would result in a significant land use impact if it would:

- Physically divide an established community;
- Conflict with any applicable plan, policy, or regulation of a government agency with jurisdiction over land within the City of Newark that has been adopted for the purpose of avoiding or mitigating an environmental effect; and/or
- Conflict with any applicable Habitat Conservation Plan or Natural Community Conservation Plan.

As noted in Chapter 4.9 of the Specific Plan EIR, implementation of the Specific Plan would not disrupt or divide an established community within the City. Because the Gateway Station West Project is within the Specific Plan area, its implementation on primarily disturbed and vacant land would not affect an established community and no impact would arise.

As a component of the Specific Plan, the proposed project would not result in a conflict with the City's General Plan land use strategy, the Bay Area Regional Smart Growth Strategy/Regional Livability Footprint Project, the San Francisco Bay Trail Plan or San Francisco Bay Plan. Specific key examples of this policy compliance include:

- The project would implement the planned land uses, development regulations, design guidelines, and necessary infrastructure improvements envisioned in the Specific Plan.

Minor adjustments in the approved Specific Plan land use map and table, described in Section 3.0, *Project Description*, would not change the prior conclusions reached on policy compliance because the project design would achieve a mixed-use community with a consistent design and distinct sense of place that would maintain a desirable quality of life in the community. The proposed land use adjustments would be consistent with the policy direction in the Specific Plan, which contemplates adjustments in boundaries and acreages of land use designations (refer to Chapters 3 and 4 of the Specific Plan), specifically those that would not modify any land use designations within the Specific Plan as a whole by more than 20 percent. As noted in Section 3.0 of this SEIR, the project would develop fewer residential units than approved for the property in the Specific Plan.

- The project would comply with the design guidelines in the Specific Plan which include recommendations for a variety of architectural styles, building types, building forms, roof pitches, materials, and architectural details, and would ensure that site development would enhance and complement the overall quality of the development and surrounding area.

- The project would create a livable community that integrates housing and recreation, in the vicinity of the future DRC transit station.

    - The project applicant would pay development impact fees to offset the costs of related public services, community facilities, and transportation improvements.

    - The project area is located outside of the San Francisco Bay Plan and would not impact the Refuge, which is located northwest of the Specific Plan area. A proposed candidate portion of the San Francisco Bay Trail would be developed on top of the levees adjacent to the project site to provide connections to these off-site open space areas.

    - The project would implement a portion of the circulation system in the Specific Plan which would ensure that the project would link with the existing street system, including Willow Street and Enterprise Drive.

    - Residential development would be located within walking distance of the future DRC transit station and portions of the Specific Plan pedestrian network would be provided both on and off site.

    - The project would provide parks and recreational open space and a trail along the perimeter of the southern, western, and northern borders to allow for both passive and active recreation opportunities.

    - Future development within the Specific Plan area would be required to comply with the City's building code, subdivision ordinance, and zoning ordinance in order to protect residents and workers from hazards within the City.

    - The project would be consistent with the Bay Area Regional Smart Growth Strategy/Regional Livability Footprint Project by implementing a "smart growth project" within a portion of the Specific Plan.

- Potential reductions in LOS to unacceptable levels that might result from project implementation at major intersections within Newark, and intersections on the boundary of Newark, were specifically proposed as part of the GPA incorporated into the Dumbarton TOD Specific Plan EIR. The GPA was adopted and became effective commensurate with adoption of the Specific Plan, and allows lower LOS where projects are part of the City's regional effort to reduce vehicle trips and greenhouse gas emission, support transit and enhance the quality of life in the region.

The Specific Plan EIR further noted that impacts related to conflicts with any applicable Habitat Conservation Plan or Natural Community Conservation Plan (NCCP) would not have the potential for significance for the Specific Plan as a whole either because they were not applicable or not reasonably foreseeable (RBF 2011).

With regard to potential land use conflicts, the Specific Plan, of which the proposed project is a part, would be an extension of the existing residential and commercial retail/office uses located adjacent to the Specific Plan area and would not create substantial land use impacts. The past, present and reasonably foreseeable future projects anticipated by the General Plan, as most recently updated, could contribute incrementally to changes in the character of the City and surrounding area. Development projects within the Specific Plan area would be required to comply with all applicable City code standards and would be subject to the City planning process and appropriate environmental review which would address land use. The Gateway Station West Project is situated at the southwestern edge of the Specific Plan area, far removed from existing residential and commercial uses. Compliance with the development regulations and design guidelines in the Specific Plan, as well as the City codes, would ensure that no land use conflicts would arise as a result of the proposed project.

For the above reasons, the proposed project would result in less than significant impacts to land use and planning.

5.4 SIGNIFICANT IRREVERSIBLE CHANGES

According to Section 15126(c) of the State CEQA Guidelines, an EIR must include an evaluation of significant irreversible environmental changes that would likely occur should the proposed project be implemented. Examples of irreversible changes identified in Section 15126.2(c) of the State CEQA Guidelines include: (1) the use of substantial amounts of nonrenewable resources (e.g., energy and mineral resources); (2) primary and secondary impacts that commit future generations to a particular use of the land; and (3) irreversible damage that could be caused by environmental accidents associated with a project. Irretrievable commitments of resources are evaluated to assure that current consumption is justified.

According to the Dumbarton TOD Specific Plan EIR, implementation of the Specific Plan, of which the project is a part, would result in: (1) the long-term conversion of this undeveloped or underutilized property for future generations and (2) construction of the project would require the commitment of a variety of other non-renewable or slowly renewable natural resources, and operation would increase consumption of fossil fuels, including gasoline.

5.5 GROWTH-INDUCING EFFECTS

Section 15126.2(d) of the State CEQA Guidelines requires a discussion of the ways in which a project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Projects that would remove obstacles to population growth are included. Examples of these types of actions include: (1) a major expansion of a waste water treatment plant that would allow for more development within its service area; and (2) actions that could encourage and facilitate "other activities" that could significantly affect the environment. Typically, the latter issue involves the potential for a project to induce further growth by the expansion or extension of existing services, utilities, or infrastructure. The State CEQA Guidelines further state that "[i]t must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment" (Section 15126.2[d]).

Implementation of the project would add new residents to the City, which would be less than originally approved for the Gateway Station West Project site but within the 8,150 residents estimated for the Specific Area Plan and identified in the General Plan. Necessary infrastructure enhancements and upgrades would be designed to accommodate full buildout of the Dumbarton TOD Specific Plan area. Although project-related infrastructure capacity would remove barriers that currently inhibit growth associated with implementation of the Dumbarton TOD Specific Plan, project-related growth would be consistent with the levels anticipated within the Specific Plan EIR. The growth-related environmental impacts of Specific Plan implementation were fully evaluated in the Specific Plan EIR. Potential Specific Plan-related impacts on community service facilities (utility infrastructure as well as parks, schools, etc.) were addressed and mitigation measures identified as appropriate. The proposed project is a part of that approved Specific Plan, and therefore also would not result in significant environmental effects related to provision of public services and utilities identified for the project post mitigation.

Because the mitigation addressed Specific Plan-wide impacts, and because the proposed project area is bordered by commercial/industrial uses and bay-related open space, implementation of the Gateway Station West Project would not be expected to support additional growth in the surrounding vicinity.

Section 6.0

PROJECT ALTERNATIVES

6.0 PROJECT ALTERNATIVES

6.1 INTRODUCTION

Section 15126.6(a) of the State CEQA Guidelines requires that an EIR "…describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." Section 15162.6(f) further states that "The range of alternatives required in an EIR is governed by a 'rule of reason' that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice." Thus, the following discussion focuses on those alternatives that are capable of reducing or eliminating significant environmental impacts, even if they would impede the attainment of some project objectives, or would be more costly. In accordance with Section 15126(f)(1) of the State CEQA Guidelines, the factors that may be taken into account when addressing the feasibility of alternatives include: (1) site suitability; (2) economic viability; (3) availability of infrastructure; (4) General Plan consistency; (5) other plans or regulatory limitations; (6) jurisdictional boundaries; and (7) whether the proponent can reasonably acquire, control, or otherwise have access to an alternative site.

Pursuant to State CEQA Guidelines Section 15126.6(d), this section presents potential alternatives to the project and includes "…sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project." An outline of the objectives identified for the Specific Plan and the proposed project is provided below in Section 6.2, followed by a summary discussion of the significant impacts associated with the proposed project in Section 6.3, an evaluation of the alternatives evaluated in the Dumbarton TOD Specific Plan EIR (RBF 2011) in Section 6.4, and alternatives considered but rejected for the proposed project in Section 6.5 (per State CEQA Guidelines Section 15126.6[c]). The evaluation of proposed project alternatives is provided in Section 6.6, with a summary of these alternatives and identification of the environmentally superior alternative outlined in Section 6.7, including a matrix comparing the impacts associated with the proposed project and identified alternatives.

6.2 PROJECT OBJECTIVES

6.2.1 Specific Plan Objectives

The primary objectives identified by the City of Newark (City) for the Dumbarton TOD Specific Plan include efforts to:

- Guide the development of a sustainable community that includes a variety of residential, retail, employment generating, and park and recreational opportunities in close proximity to each other.
- Provide for a mix of housing opportunities at a range of densities from single-family detached to multi-family housing to meet the varied housing needs of the community.
- Implement applicable City General Plan goals, policies, and programs that require a mix of housing types at a range of densities and for a range of income levels.

- Provide a sufficient number of residential units within walking distance of the future, planned transit station to generate the ridership necessary to support the station if and when the Dumbarton Rail Corridor (DRC) Project is implemented or alternative transit service is established.
- Encourage the development of a predominantly vacant area of land for its highest and best use.
- Guide the development of a new community with a distinct identity, architectural style and sense of place while being compatible with existing neighborhoods.

6.2.2 Gateway Station West Project Objectives

The identified objectives for the proposed project include the following:

- Provide on-site residential development consistent with the densities identified in the Dumbarton TOD Specific Plan and the City General Plan Land Use Element, including housing needs identified during the period of 2015 to 2023 in the 2015 Housing Element Update.
- Provide a mix of housing opportunities from single-family to multi-family housing to meet the City's housing needs.
- Create a compact, walkable community with access to employment opportunities.
- Provide residential units within walking distance of the future, planned transit station to generate the ridership necessary to support the station in keeping with the Dumbarton TOD Specific Plan.
- Permanently preserve and/or restore sensitive biological resources (including wetlands) in the southwestern portion of the Gateway Station West project site.
- Set aside land for open space preservation and recreation opportunities, including the candidate trail proposed for San Francisco Bay Trail status.
- Develop a focused new community with a distinct identity, architectural style and sense of place while being compatible with existing and planned neighborhoods.

6.3 SIGNIFICANT IMPACTS OF THE PROPOSED PROJECT

Based on the evaluations in Section 4.0, *Environmental Analysis*, significant impacts were identified for the proposed project in association with air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology/water quality, and noise. These impacted would be mitigated by measures contained in the Dumbarton Specific Plan EIR and/or project-specific measures outlined in Section 4.0 of this SEIR. In addition, while no significant new impacts were identified for the issue of transportation/traffic under the proposed project, the EIR analysis in Section 4.10 concludes that a number of off-site roadway segment and intersection impacts identified in the Specific Plan EIR would be significant and unavoidable under the proposed project, as the associated mitigation measures would be

infeasible (i.e., for reasons including the lack of adequate right-of-way to implement required improvements, and the fact that the subject locations are outside of the City jurisdictional boundaries).

6.4 DUMBARTON TOD SPECIFIC PLAN EIR ALTERNATIVES

The Dumbarton TOD Specific Plan EIR analyzed three alternatives to the Specific Plan project: (1) No Project/No Build Alternative; (2) High Density Residential Alternative; and (3) Medium High Density Residential Alternative, as outlined below.

6.4.1 No Project/No Build Alternative

The No Project/No Build Alternative was defined as retention of existing conditions, including existing zoning for technology park and (both) limited and general industrial uses. This would assume that the existing City police firing range and dog training facility/Menlo Schutzhund Club along the eastern property boundary and ongoing construction storage uses associated with the northernmost portion of the project would continue. Because no applications had been filed for specific development, No Project Alternative analysis focused on current "on the ground" conditions rather than a speculative future condition. Conclusions were that retention of the existing condition would have eliminated all of the potentially significant impacts identified for implementation of the Specific Plan (including the proposed project), as no development would have occurred and the entire Specific Plan area would have remained in its current condition. It should also be noted, however, that while no impacts related to the presence of on-site hazardous material contamination would have occurred under this alternative, remediation of existing site contaminants was identified as "less certain" under the No Project/No Build Alternative than with Specific Plan development. That is, the Specific Plan EIR notes that this alternative would have retained the on-site zoning present at that time, "…which has not attracted new businesses to the area over the past 10 years…with less or no incentive for new development…to absorb remediation costs and facilitate property remediation and redevelopment" (RBF 2011:5-10,11). The Specific Plan EIR also concludes that under the No Project/No Build Alternative, "none of the Project Objectives associated with the Specific Plan would be achieved…including the creation of a mix of housing…and employment opportunities, all within walking distance of the future, planned DRC transit station."

6.4.2 High Density Residential Alternative

The High Density Residential Alternative would have concentrated residential units and related development into several areas adjacent to the future planned DRC transit station (refer to Figure 5-1, *Alternative 2 - High Density Residential*, in the Dumbarton TOD Specific Plan EIR). Under this alternative, the Specific Plan EIR provided the following conclusions, as noted above in Section 6.3: (1) identified significant impacts to air quality, biological resources, cultural resources, hydrology/water quality, and noise, would have been "reduced" or "slightly reduced" compared to the Specific Plan; and (2) identified significant impacts to geology and soils, hazards and hazardous materials; and transportation/traffic would have been "similar" to those assessed for the proposed Specific Plan. Based on this assessment, it is assumed that the noted Specific Plan impacts would have remained significant under the High Density Residential Alternative (although this conclusion was not specifically provided in the Specific Plan EIR for

issues with "reduced" or "slightly reduced" impact levels). The Specific Plan High Density Residential Alternative was identified as "environmentally superior" (equal to the Medium Density Residential Alternative) for the Specific Plan overall.

6.4.3 Medium High Density Residential Alternative

The Medium High Density Residential Alternative would have concentrated residential units and related development in the northern and eastern portions of the Specific Plan area, away from sensitive biological resources (refer to Figure 5-2, *Alternative 3 – Medium High Density Residential*, in the Dumbarton TOD Specific Plan EIR). The Specific Plan EIR provided the following conclusions, as noted above in Section 6.3: (1) significant impacts to air quality, biological resources, cultural resources, hydrology/water quality, and noise, would have been "reduced" or "slightly reduced" compared to the proposed Specific Plan; and (2) significant impacts to geology and soils, hazards and hazardous materials; and transportation/traffic would have been "similar" to those assessed for the proposed Specific Plan. Based on this assessment, it is assumed that the noted Specific Plan impacts would have remained significant under the Medium High Density Residential Alternative (although as noted above for the High Density Residential Alternative, this conclusion was not specifically provided in the Specific Plan EIR for issues with "reduced" or "slightly reduced" impact levels). The Medium Density Residential Alternative was identified as "environmentally superior" (equal to the Specific Plan High Density Residential Alternative) for the Specific Plan overall.

6.5 PROPOSED PROJECT ALTERNATIVES CONSIDERED BUT REJECTED FROM FURTHER STUDY

State CEQA Guideline 15126.6(c) requires that an EIR identify alternatives that were considered and rejected as infeasible, and briefly explain the reasons for their rejection. Alternatives considered but rejected from further study for the proposed Gateway Station West Project include: alternative site location scenarios and two alternative plans from the Dumbarton TOD Specific Plan EIR, the Specific Plan High Density Residential Alternative and the Specific Plan Medium High Density Residential Alternative.

6.5.1 Alternative Site Location(s)

Section 15126.6(f)(A) of the CEQA Guidelines requires that an EIR identify an alternative location that "…would avoid or substantially lessen any of the significant effects of the project." As noted above in Section 6.2, two of the primary objectives of the proposed project include goals to implement uses consistent with the Dumbarton TOD Specific Plan, and to provide a "…compact, walkable community with access to regional transit facilities and employment opportunities." Two scenarios were reviewed for potential alternative site location(s): potential for moving the project within the Specific Plan boundaries, and potential for siting the project somewhere beyond the Specific Plan boundaries.

Alternative Site Location(s) Within Specific Plan Boundaries

The remaining portions of the Specific Plan area (i.e., outside the proposed project boundaries but within the Specific Plan) are designated for development under separate proposals, including the Trumark and Torian sites. These areas would thus not be available for development under

the proposed project, with no viable alternative location within the Specific Plan area that would accommodate the Gateway Station West development (i.e., other than the proposed project site). Additionally, based on analysis in the Specific Plan EIR and project-specific evaluations, both the Trumark and Torian sites exhibit similar potential environmental effects as the proposed project, including potentially significant impacts related to air quality, biological and cultural resources, geology and soils, hazards and hazardous materials, hydrology/water quality, noise, and transportation/traffic. Accordingly, use of an alternative site location within the Specific Plan area, even if available, would likely not avoid or substantially reduce any of the potentially significant impacts identified for the proposed project. As a result, this alternative would not satisfy the noted criteria in Section 15126.6(f)(A) of the CEQA Guidelines, and would not meet the stated project objective to "implement the City objectives and long-term programmatic planning for the Specific Plan area as set forth in the General Plan and Dumbarton TOD Specific Plan." For these reasons, use of an alternative location within the Dumbarton TOD Specific Plan area is not considered a feasible alternative under CEQA.

Alternative Site Location(s) Beyond Specific Plan Boundaries

As noted above, one of the primary objectives of the proposed project is to implement the City objectives and planning goals identified in the General Plan and the Dumbarton TOD Specific Plan. Accordingly, use of an off-site location (i.e., outside the Specific Plan area) to implement the proposed project would not meet this objective and, depending on the specific location, would likely not meet the related objective to provide a "…compact, walkable community with access to regional transit facilities and employment opportunities." Specifically, there are two nearby (off-site) locations that could potentially accommodate the proposed project, including undeveloped properties located adjacent to the project site on the south, and just north of the existing rail corridor and southwest of Thornton Avenue. Both of these sites, however, are designated as Conservation-Open Space in the Newark General Plan (City 2013), based on the presence of sensitive biological resources. As a result, both of the noted sites are considered unavailable and infeasible as alternative project locations, based on factors including site suitability, General Plan consistency, other plans or regulatory limitations, and the ability of the project proponent to reasonably acquire and utilize these sites.

While other off-site locations located farther from the Specific Plan area may potentially be available to accommodate the proposed development with similar or reduced environmental impacts, the use of such a location would not meet the stated project objectives to: (1) implement the City objectives and long-term programmatic planning for the Specific Plan area as set forth in the General Plan and Dumbarton TOD Specific Plan; (2) create a compact, walkable community with access to regional transit facilities and employment opportunities; and (3) set aside land for open space preservation and recreation opportunities, including the future San Francisco Bay Trail (as well as the Specific Plan objective to encourage the development of a predominantly vacant area of land for its highest and best use). Accordingly, the use of such an off-site location for the proposed project is not considered a feasible alternative under CEQA, as it would likely not meet the majority of the stated project (and Specific Plan) objectives.

6.5.2 Specific Plan High Density Residential Alternative

Per the above discussion of this alternative in Section 6.4.2 development of the Specific Plan under the High Density Residential Alternative would be concentrated in several areas adjacent to the future planned DRC transit station. As depicted on Figure 5-1 of the Specific Plan EIR, this scenario would designate the entire Gateway Station West Project site as permanent open space, with no associated residential or other development. This scenario varies from the No Project/No Build Alternative in that existing structures would be removed from the area to be retained in permanent open space. This alternative is considered infeasible under CEQA as it would not meet any of the stated proposed project objectives, as well as the Specific Plan objective to encourage the development of a predominantly vacant area of land for its highest and best use. It is also largely duplicative with the No Project/No Build Alternative addressed in Section 6.5, *Proposed Project Alternatives*. The reader is referred to Section 6.5.1 for additional discussion.

6.5.3 Specific Plan Medium High Density Residential Alternative

Similar to the discussion of the High Density Residential Alternative provided above, the proposed project site would be designated as permanent open space under this alternative, with removal of existing structures, and no associated residential or other development (refer to Figure 5-2 of the Specific Plan EIR). As a result, the Medium High Residential Alternative is considered infeasible under CEQA as it would not meet any of the stated proposed project objectives, as well as the Specific Plan objective to encourage the development of a predominantly vacant area of land for its highest and best use. It is also largely duplicative with the No Project/No Build Alternative addressed in Section 6.5, *Proposed Project Alternatives*. The reader is referred to Section 6.5.1 for additional discussion.

6.6 PROPOSED PROJECT ALTERNATIVES

6.6.1 No Project/No Build Alternative

Pursuant to Section 15126.6(e)(3)(B) of the State CEQA Guidelines, the No Project/No Build Alternative represents the "…circumstance under which the project does not proceed." Consistent with the Specific Plan EIR, the No Project/No Build Alternative assumes that the site would remain in its current physical condition and would not be developed with the proposed project uses or any other uses permitted under the existing adopted Specific Plan. As noted in Section 6.4, existing on-site structures and uses associated with the City police dog training and firing range, as well as private construction storage activities, could remain; with associated land use patterns and potential for indirect effects to the adjacent undeveloped open space. Even if these existing uses remain, this alternative would not result in additional ground disturbance or increase in intensity of existing use patterns.

Accordingly, this alternative would avoid all of the potentially significant impacts associated with building the proposed project. As noted above under the discussion of Specific Plan Alternatives, however, the No Project/No Build Alternative would also reduce the likelihood that existing on-site contamination would be fully remediated (as required for the proposed project),

based on the projected lack of incentive for new development to "…absorb remediation costs and facilitate property remediation and redevelopment."

Because the project site would remain largely vacant, the No Project/No Build Alternative would be inconsistent with all housing/development-related goals and objectives in the City General Plan, the adopted Dumbarton TOD Specific Plan and the proposed project. Nor would the No Project/No Build Alternative permanently place site open space into protected preserve, or contribute to development of recreational opportunities associated with the candidate regional trail proposed for the project. It also would not meet the Specific Plan goal of using primarily vacant land for its highest and best use.

Because beneficial effects of development implementation relative to remediation of on-site contamination would not occur, and because project objectives would not be obtained, this alternative would be less preferred than the proposed project.

6.6.2 No Project/Existing Specific Plan Alternative

Pursuant to Section 15126.6(e)(3)(A), "when the project is a revision of an existing land use or regulatory plan, policy or ongoing operation, the no project alternative will be the continuation of the existing plan, policy or ongoing operation." In the current case, the Dumbarton TOD Specific Plan was adopted by the City in 2011. Although no Specific Plan Amendment is required due to the fact that the proposed changes are within the amount of variance permitted under the approved Specific Plan (up to 20 percent), the proposed project does propose land uses that would result in impacts different from those assessed under the adopted Specific Plan. The impacts of the proposed project are therefore also compared with impacts anticipated to occur under the existing plan (the Dumbarton TOD Specific Plan). Under this scenario, only the portions of the plan applicable to the proposed project area (generally west of Hickory Street and south of Enterprise Drive) are addressed.

Both the No Project/Existing Specific Plan Alternative (Existing Specific Plan Alternative) and the proposed project would affect 54.53 acres within the original full Specific Plan area of 160.3 acres. As depicted on Figure 3-4, *Approved and Adjusted Land Use Plan*, of this SEIR, the adopted Dumbarton TOD Specific Plan shows low, medium, and medium high residential densities, as well as park and recreational open space acreage. Differences between the two plans include a decrease in residential units under the proposed project from a possible total of 652 to the proposed 589 residences (a difference of 63 homes), with some shifts in housing types as well. Acreage and locations of proposed park or open space areas would remain the same.

The reader should note that it is possible that the "additional" homes proposed for the Gateway Station West development area under the Specific Plan would simply be transfer to another property within the Specific Plan, in accordance with policies in the plan. This is addressed as relevant through the analyses below.

Air Quality

Similar to the proposed project, the Existing Specific Plan Alternative would result in an exceedance of the 54 lb/day threshold shown on Table 4.2.6, *Maximum Daily Construction Emissions*, for the proposed project. Although development of the Existing Specific Plan could

result in approximately 11 percent more residences than the proposed project, the projected maximum daily emissions during construction would be expected to remain similar. This is because modeled emissions are based on anticipated work per day, rather than development density.

In terms of operational impacts, this alternative would increase the number of residences proposed for the current project area by up to 63 units. It could, therefore, incrementally increase project-specific operational emissions associated with vehicular use (e.g., generally associated with cars per household) over those proposed for the proposed project. Relative to specific emissions thresholds, as shown Table 4.2-7, *Maximum Daily Operational Emissions*, the proposed project would be under stated thresholds. For the issue of NO_X, however, the proposed project (with emissions from vehicles associated with 569 homes) is projected to be within six units of the threshold (48 out of 54). Simply by dividing the number of proposed project homes by the total pounds per day (lbs/day) of emissions, it appears that approximately one pound of emissions is projected for every 11.85 (12) homes. The additional number of homes (63) allowed in this area under the Specific Plan could therefore emit approximately 7 lbs/day, or one pound over the threshold. As a result, there is potential for the implementation of the Specific Plan uses on the parcel under discussion to exceed the threshold and result in a significant impact that would not occur for the proposed project. This would be less preferred than the proposed project, which would be under the NO_X threshold.

As noted above, the reduction of on-site residential units in accordance with the proposed project could result in an equivalent number of units being transferred in other portions of the Specific Plan area, with the significant impact associated with operations occurring elsewhere. The potential for this to occur is speculative at this time, and regardless, such exceedance would not be associated with the proposed project development. As a result, the proposed project would be preferred over the Existing Specific Plan Alternative for the issue of air quality.

Biological Resources

The Existing Specific Plan Alternative would result in a similar area of disturbance relative to vertical development, but would have a slightly greater footprint impact as a potential trail would follow the parcel boundary lines all along the south and west sides of the development area (see Figure 3-4 of this SEIR). A substantial portion of this trail would therefore be located south and west of area proposed for open space/wetland preserve. Under the proposed project, the trail would be placed immediately adjacent to residential development, on the east and north sides of the proposed open space/wetland preserve and park areas, removing a passive use area from immediately abutting preserve area. Otherwise, footprint impacts would remain the same between the alternatives, including significant impacts to aquatic habitats and associated federal/state jurisdictional areas (refer to Figures 3-4 and 4.3-3, *Habitat Impacts*). This alternative would also result in similar (and potentially significant) impacts to special status species as identified for the proposed project, including burrowing owl, northern harrier, red tailed hawk and other raptors, and migratory birds such as saltmarsh yellowthroat and others, as well as City Municipal Code protected trees (two on-site silver dollar gum trees, two shamel ash and California fan palm trees in the Enterprise Drive ROW, and [potentially] a fan palm located on the Hickory Street ROW boundary, and an acacia located on the Enterprise Drive ROW boundary). Identified potential impacts to rare plants would be the same for both the proposed

project and Existing Specific Plan Alternative (current surveys did not identify sensitive plants, but future surveys may be required if project implementation does not occur by the end of summer 2017).

Accordingly, potential impacts to biological resources under the Existing Specific Plan Alternative would remain significant, and overall similar to the proposed project. The proposed project would be preferred over this alternative, however, because placing the trail along the edge of the development footprint rather than around the southern and western perimeter of the project open space area would result in lessened potential adverse edge effects (noise, movement, potential trash, etc.) on sensitive species and habitats within the project open space, and would reduce the potential for indirect impacts to species using open space areas in the adjacent Plummer Creek Mitigation Bank and salt basins. Indirect effects of the development in general would also be slightly reduced under the proposed project when compared with the more intensive residential development associated with this alternative.

Cultural Resources

As noted above, the Existing Specific Plan Alternative would result in a similar area of disturbance relative to vertical development, but would have a slightly greater footprint impact as a potential trail would follow the parcel boundary lines all along the south and west sides of the development area (see Figure 3-4 of this SEIR). Although there are no known culturally significant resources on site and their discovery is considered unlikely, a potential for discovery of previously unidentified buried archaeological materials (with associated potential for significant impacts) was conservatively assessed for the proposed project (including both on-site and off-site improvement areas).

This would also be true for the Existing Specific Plan Alternative, with the slightly greater footprint impact for a trail (as shown on Figure 3-4 of this SEIR) not resulting in a notably greater potential impact area. No meaningful difference is identified relative to the preference of this alternative compared to the proposed project.

Geology and Soils

This alternative would involve the same overall development area as noted earlier, and would encounter similar conditions as described for the proposed project related to geologic hazards including seismic ground shaking, liquefaction and related effects, manufactured slope instability, geologic/soil instability (e.g., corrosive soils, excavation/trench stability, and shallow bedrock/groundwater), and expansive soils. As a result, potential impacts related to geology and soils under the Existing Specific Plan Alternative also would be significant and no difference is identified relative to preference of this alternative compared to the proposed project.

Hazards and Hazardous Materials

The Existing Specific Plan Alternative also would impact known and (potentially) unknown hazardous material sites (including all of the Recognized Environmental Conditions [RECs] identified for the proposed project), as well as the four on-site groundwater monitoring wells located in the northeastern portion of the site (with these wells related to off-site groundwater remediation efforts, refer to Figures 6-1 and 4.7-1). In addition, the site (including proposed

residential development areas) would be subject to potentially significant impacts related to the "worst case" release of off-site hazardous materials under this alternative, similar to those described for the proposed project. Accordingly, potential impacts related to hazards and hazardous materials under the Existing Specific Plan Alternative would be the same as those assessed to the proposed project, would also be significant, and no difference is identified relative to preference between this alternative and the proposed project.

Hydrology/Water Quality

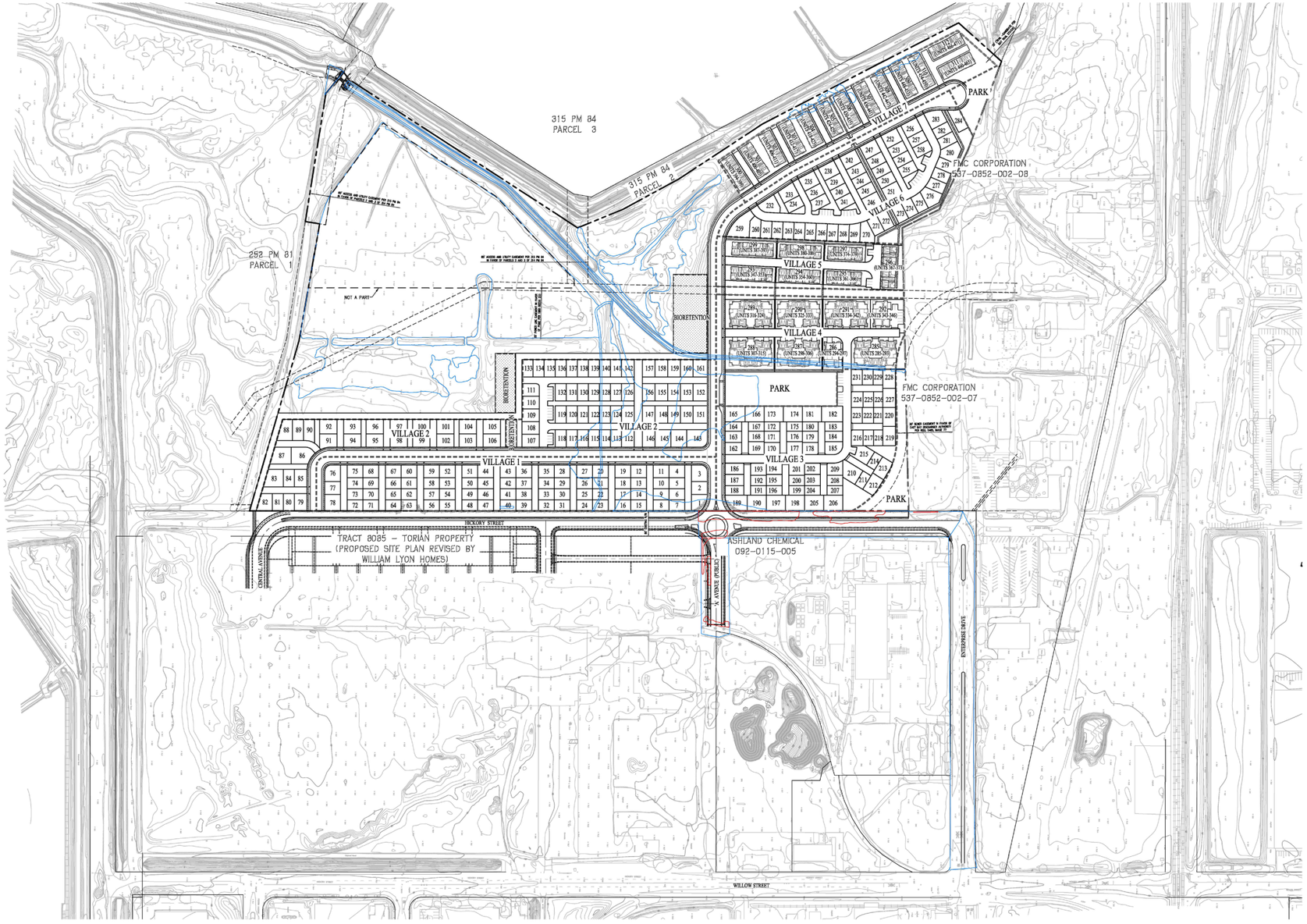
Based on the similar project footprint, the Existing Specific Plan Alternative would have similar potential impacts related to hydrology/water quality, including potentially significant impacts to groundwater resources and water quality. Specifically, potential impacts to groundwater resources are associated with efforts to address on-site liquefaction hazards (such as the use of subsurface facilities/activities including subdrains, piles, soil vibrocompaction, grouting and deep mixing), while water quality concerns are related to the disposal of extracted groundwater (if required) that may contain contaminants. Because this alternative would include development in similar areas as the proposed project with potential liquefaction hazards and shallow groundwater, associated potential impacts would remain significant. No difference is identified relative to preference between this alternative and the proposed project.

Noise

The Existing Specific Plan Alternative would result in development of up to 63 more homes than the proposed project, and residential units would be subject to potentially significant noise impacts related to ground-mounted heating, ventilation, and air conditioning (HVAC) systems (i.e., if ground-mounted HVAC equipment is located closer than 25 feet from adjacent residential property lines) as discussed for the proposed project. Up to 63 fewer residential units, however, would be subject to these adverse effects under proposed project. As a result, the impact related to HVAC-generated noise under the Existing Specific Plan Alternative would both be significant, and would be expected to increase the numbers of sensitive receptors potentially affected. A considerable contribution to a potential cumulative noise impact associated with off-site project traffic would be incrementally increased with the additional traffic associated with the up to 63 additional homes proposed under the Existing Specific Plan Alternative. Although as discussed throughout this section, there is the potential for these homes to be relocated to another location within the overall Specific Plan area and, therefore, simply occur elsewhere, the potential for this to occur is speculative at this time, and regardless, such exceedance would not be associated with the proposed project development. Because this alternative would expose more sensitive receptors to the impact on the Gateway Station West property from HVAC-generated noise, the Existing Specific Plan Alternative would be less preferred than the proposed project for the issue of noise.

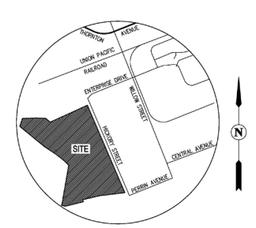
Transportation and Traffic

As previously noted, no significant new impacts related to transportation/traffic were identified for the proposed project. Potentially significant and unavoidable impacts to public transit and significant and unavoidable impacts to several off-site roadway segments and intersections would result from Specific Plan (and proposed project) implementation. Mitigation for these



LEGEND

- SUBDIVISION BOUNDARY
- OFFSITE AREA
- WATERS OF THE U.S. BOUNDARY



VICINITY MAP

NOT TO SCALE

GENERAL NOTES:

1. OWNER/DEVELOPER: DUNBARTON AREA 2, LLC
   500 LA GONDA WAY, SUITE 102
   DANVILLE, CA 94526
   CONTACT: GLENN BROWN
   (925) 362-3749
2. ENGINEER: CARLSON, BARBEE & GIBSON, INC.
   2633 CAMINO RAMON, SUITE 350
   SAN RAMON, CA 94583
   CONTACT: GREG MILLER
   (925) 866-0322
3. SOILS ENGINEER: BERLOGAR, STEVENS & ASSOCIATES
   5987 SUNOL BOULEVARD
   PLEASATON, CA. 94566
   CONTACT: FRANK BERLOGAR
   (925) 484-0220
   (925) 846-9645 (FAX)
4. EXISTING USE: LIGHT INDUSTRIAL
5. SUBDIVISION AREA: 54.53±
6. NUMBER OF UNITS 471 UNITS
7. THIS PROPERTY LIES IN THE JURISDICTION OF:
   FIRE PROTECTION
   CITY OF NEWARK FIRE PROTECTION DISTRICT
   DOMESTIC WATER
   ALAMEDA COUNTY COUNTY WATER DISTRICT
   SANITARY SEWER
   UNION SANITARY DISTRICT
   STORM DRAIN WITHIN STREETS, LANES & PASEOS
   CITY OF NEWARK (SDE)
   STORM DRAIN WITHIN PRIVATE YARDS
   PRIVATELY MAINTAINED BY HOMEOWNERS (PSDE)
   GAS & ELECTRIC SERVICE
   PACIFIC GAS & ELECTRIC
   TELEPHONE SERVICE
   AT&T
8. ASSESSORS PARCEL NUMBERS: 537-0852-007
9. BENCHMARK: CITY OF NEWARK OFFICIAL BENCHMARK NO. 62, ALSO BEING AN ALAMEDA COUNTY BENCHMARK, THE TOP OF CURB AT STORM WATER INLET AT THE NORTH-EAST CORNER OF THORTON AVENUE AT WILLOW STREET, ELEVATION TAKEN AS 11.39 (NAVD 88) (8.661 NGVD 29 PER CITY OF NEWARK RECORDS).
10. TOPOGRAPHY: PREPARED BY NJH GEOSPATIAL, INC. DATED MAY 2005
11. FLOOD ZONE: ZONED X AND AE
    FLOOD INSURANCE RATE MAP (FIRM)
    COMMUNITY PANEL NUMBER: 060009 0005 F

LAND USE SUMMARY	
GATEWAY STATION PROJECT SITE	
DEVELOPED	AREA (AC)
SINGLE-FAMILY LOTS	14.17
MULTI-FAMILY LOTS	5.74
PUBLIC STREETS	4.22
PRIVATE STREETS & ALLEYS	4.35
SUBTOTAL	28.48
OPEN SPACE	AREA (AC)
PARKS	1.73
RAILS	1.33
BIO-RETENTION	0.98
NATURAL OPEN SPACE	10.22
PRESERVED WATERS OF THE U.S.	11.79
SUBTOTAL	26.05
TOTAL	54.53
HICKORY STREET ROW	1.63
A AVENUE	0.63
ENTERPRISE DRIVE ROW	1.98
CULVERT EASEMENT	0.05
TOTAL PROJECT AREA	58.80

UNIT SUMMARY	
VILLAGE	NUMBER OF UNITS
VILLAGE 1 – 35 x 90 UA ALLEY	78
VILLAGE 2 – 35 x 95 UA ALLEY	83
VILLAGE 3 – UA SFD CLUSTER	70
VILLAGE 4 – UA P9	62
VILLAGE 5 – UA LOFT SPLIT	47
VILLAGE 6 – 35 x 95 UA ALLEY	52
VILLAGE 7 – UA LOFT SPLIT	78
TOTAL	471

WATERS OF THE U.S. SUMMARY	AREA (AC)
WATERS OF THE U.S. PRESENT ON SITE	15.25
WATERS OF THE U.S. PERMANENTLY AFFECTED ON SITE	3.08
WATERS OF THE U.S. TEMPORARILY AFFECTED ON SITE	0.38
WATERS OF THE U.S. PRESENT OFF SITE	0.50
WATERS OF THE U.S. PERMANENTLY AFFECTED OFF SITE	0.47
WATERS OF THE U.S. TEMPORARILY AFFECTED OFF SITE	0.02
WATERS OF THE U.S. TOTAL	15.75
WATERS OF THE U.S. PERMANENTLY AFFECTED TOTAL	3.55
WATERS OF THE U.S. TEMPORARILY AFFECTED TOTAL	0.41
WETLANDS PRESERVED	6.22
NOT A PART- WATERS OF THE U.S. WITHIN 6-ACRE DONATION	5.59

TRACT 8099
GATEWAY STATION WEST
REDUCED PROJECT ALTERNATIVE

CITY OF NEWARK ALAMEDA COUNTY CALIFORNIA

0' 100' 300' 400'
SCALE: 1" = 100' DATE: JULY 15, 2015

Carlson, Barbee & Gibson, Inc.
CIVIL ENGINEERS • SURVEYORS • PLANNERS
2633 CAMINO RAMON, SUITE 350
SAN RAMON, CALIFORNIA 94583
(925) 866-0322
www.cbandg.com

S:\PROJECTS\DDAT-ALL\DAT-02_GatewayStationCEQA\Figures\EIR\indd\ALT DAT-01 04/02/15 - JH

Source: Carlson, Barbee & Gibson, Inc. 2015

Reduced Project Alternative

GATEWAY STATION WEST

HELIX Environmental Planning

Figure 6-1

impacts was determined to be infeasible due to right-of-way and jurisdictional limitations, as summarized above in Section 6.3. The proposed project would decrease the number of on-site residential units (and associated traffic generation) by approximately 11 percent compared to the alternative, which would result in an incrementally lessened (though still significant and unavoidable) impact for this issue. As previously described, an equivalent number of units could be added in other portions of the Specific Plan area. The potential for this to occur is speculative at this time, however, and these trips would not be associated with the proposed project development. This results in the proposed project being preferred over the alternative for transportation/traffic relative to the issue of off-site roadway and intersection impacts.

Conclusion

Implementation of the Existing Specific Plan Alternative would be anticipated to result in incrementally greater impacts associated with direct and/or cumulative noise, biology and transportation/traffic; and impacts similar to those described for the proposed project for the issues of cultural resources, geology and soils, hazards and hazardous materials, and hydrology/water quality. A potentially significant operational impact identified for NO_X would be associated with this alternative that would not occur for the proposed project. Accordingly, none of the significant impacts identified for the proposed project would be avoided or substantially reduced under this CEQA-required alternative, and these impacts would remain significant. Excluding the focused hazardous materials and traffic issues, which would remain significant and unavoidable for both the proposed project and alternative, and operational NO_X, which would remain significant for the alternative, all impacts would be mitigated to less than significant levels for both the alternative and proposed project.

Relative to compliance with proposed project objectives, both the proposed project and the Existing Specific Plan Alternative would be responsive to all proposed project objectives. Both projects generally would: (1) provide on-site residential development consistent with the densities identified in the Dumbarton TOD Specific Plan and the City General Plan Land Use Element, including housing needs identified for the period of 2015 to 2023 in the 2015 Housing Element Update; (2) provide a mix of housing opportunities from single-family to multi-family housing to meet the City's housing needs; (3) create a compact, walkable community with access to employment opportunities; (4) provide residential units within walking distance of the future, planned transit station to generate the ridership necessary to support the station in keeping with the Dumbarton TOD Specific Plan; (5) permanently preserve and/or restore sensitive biological resources (including wetlands) in the southwestern portion of the Gateway Station West project site; (6) set aside land for open space preservation and recreation opportunities, including the candidate trail proposed for San Francisco Bay Trail status; and (7) develop a focused new community with a distinct identity, architectural style and sense of place while being compatible with existing and planned neighborhoods.

The Existing Specific Plan Alternative would be more incrementally more responsive to items 1, 2 and 4 as it could more closely adhere to the Dumbarton TOD Specific Plan densities and mix for the parcel, as well as the related Dumbarton TOD Specific Plan goal of developing predominantly vacant land for its highest and best use. Relative to the updated General Plan Land Use Element, the two alternatives would both largely meet the objective, but differ in the fine points. The Housing Element recommends 630 units of medium density housing on

41 acres (General Plan designations of medium density and low medium density) as well as a large open space preserve. The Existing Specific Plan Alternative could place the entire 630 units (or even more) on site, but would have seven more acres than the proposed project of medium high density housing. The proposed project would place 589 residential units (93 percent of the General Plan goal) on the site, but would have less medium high density housing. Both of these scenarios would implement development on approximately 41 acres, as well as including the open space preserve of approximately 13.5 acres. The proposed project would be incrementally more responsive to item 5 as the open space set aside would be slightly preferred over the alternative design for reasons described under Biological Resources, above. Overall, the differences in objectives attainment are considered less than substantial, with the two development scenarios being considered similar when the incremental variation in pros and cons of the two plans are weighed against each other.

The "footprint" impacts (i.e., the environmental differences between the two development scenarios) therefore control assessment of alternative preference. The Existing Specific Plan Alternative is considered environmentally less preferable than the proposed project based on increased incremental significant and unavoidable transportation/traffic impacts, a significant and potentially unavoidable operational impact relative to air quality (NO_X), and a slightly increased impact associated with an improved trail surrounding the open space/preserve area.

6.6.3 Reduced Project Alternative

Under the Reduced Project Alternative, development would be scaled back in the central and southern portions of the Gateway Station West site, with an overall development area of approximately 28.5 acres versus approximately 41 acres for the proposed project. This alternative would include a total of 471 residential units, or 118 fewer units compared to 589 units under the proposed project (refer to Figures 3-5 and 6-1, Reduced Project Alternative). The candidate regional trail identified for the proposed project also would be proposed as part of this alternative. For the Reduced Project Alternative, although the exact footprint would vary slightly as the development footprint is somewhat smaller than the proposed project, it would be similar to the proposed project in that it would be sited adjacent to the alternative's proposed residential uses along the southerly and westerly parcel boundaries. As previously noted, significant on-site impacts associated with the proposed project include air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology/water quality, and noise. In addition, off-site transportation/traffic impacts related to roadway/intersection operations were concluded to be significant and unavoidable under the Specific Plan and proposed project analyses. Summary descriptions of associated potential impacts from the Reduced Project Alternative, relative to the proposed project, are provided below.

Air Quality

While this alternative would reduce the overall level of on-site development and associated air quality emissions, it would entail the development of approximately 80 percent of the units identified for the proposed project. No significant operational impacts were identified for the proposed project and this alternative would additionally lower the less than significant impact as the number of cars would be reduced. Because construction-period air quality impacts are

associated with identification of maximum construction activity per day, and that level of activity is expected to remain constant regardless of the specific numbers of residential units actually constructed, construction-period air quality emissions are expected to be consistent with those identified for the proposed project. As shown in Table 4.2.5, *Maximum Daily Construction Emissions*, this level would exceed the associated threshold of 54 lbs/day. As a result, short-term air quality (NO_X) impacts under this alternative would remain significant, but the timeframe for alternative implementation could be somewhat shorter with fewer units than under the proposed project, so that the duration of those impacts might be incrementally lesser.

Although no significant impacts associated with the proposed project would be eliminated through alternative implementation, the incremental reduction in operational emissions combined with a potentially shorter emissions period during construction results in the Reduced Project Alternative being preferred over the proposed project for the issue of air quality.

Biological Resources

The Reduced Project Alternative would result in a smaller overall area of disturbance (30 percent less), with a corresponding reduction of impacts to biological habitats and associated species. Seasonal wetland habitats impacts, as well as associated federal/state jurisdictional areas (refer to Figures 6-1 and 4.3-3, *Impacts to Habitats and Jurisdictional Areas*), would be substantially reduced in the southern portion of the Gateway Station West parcel. This alternative would also result in potentially significant but lessened impacts to special status species. The loss of foraging habitat for northern harrier, red tailed hawk and other raptors would be reduced when compared with the proposed project, and the loss of potential nesting and foraging habitat for burrowing owl would be reduced. Impacts to potential nesting habitat for saltmarsh common yellowthroat and other passerines would be similar to the proposed project, since the same potential nesting habitat in the open space would be retained and potential nesting habitat in the remainder of the project site and off-site improvement areas would be similarly impacted. Due to the smaller development footprint under this alternative, however, the loss of foraging habitat for nesting passerines and migratory birds would be reduced. Impacts to City Municipal Code protected trees (two on-site silver dollar gum trees located near the southeastern parcel boundary, two shamel ash trees and California fan palm trees in the Enterprise Drive ROW, and [potentially] a fan palm located on the Hickory Street ROW boundary, and an acacia located on the Enterprise Drive ROW boundary) would be the same as identified for the proposed project. Identified potential impacts to rare plants would be the same for both the proposed project and Reduced Project Alternative (current surveys did not identify sensitive plants, but future surveys may be required if project implementation does not occur by the end of summer 2017). Due to the smaller development footprint, indirect impacts to sensitive species occurring in the project open space and adjacent off-site open space areas (Plummer Creek Mitigation Bank and solar salt basins) would be reduced when compared to the proposed project.

Accordingly, potential impacts to biological resources (wetlands/jurisdictional habitats, sensitive raptors and passerines) under the Reduced Project Alternative would remain significant but would be reduced based on the smaller footprint. Impacts to City-protected trees would remain the same. The decrease in sensitive resource impacts (wetlands/jurisdictional habitats, sensitive raptors and passerines) would result in the Reduced Project Alternative being preferred over the proposed project for the issue of biological resources.

Cultural Resources

Although there are no known culturally significant resources on site and their discovery is considered unlikely, a potential for discovery of previously unidentified buried archaeological materials (with associated potential for significant impacts) was conservatively assessed for the proposed project (including both on-site and off-site improvement areas). As noted above, the Reduced Project Alternative would result in an approximately 30 percent smaller impact area of the project site. Although the potential for impacts is unknown at this time, the reduction in site disturbance area would result in an incrementally lowered potential for impact, and a related incrementally greater preference for the Reduced Project Alternative over the proposed project.

Geology and Soils

This alternative would involve a smaller overall development area as noted above, but would encounter similar conditions as described for the proposed project related to geologic hazards including seismic ground shaking, liquefaction and related effects, manufactured slope instability, geologic/soil instability (e.g., corrosive soils, excavation/trench stability, and shallow bedrock/groundwater), and expansive soils. Potential impacts related to geology and soils under the Reduced Project Alternative would remain significant. These impacts are associated primarily with implementation of appropriate building standards, however, as opposed to project effects on the surrounding environment. As a result, there is no real differentiation between the development scenarios for this issue, and no difference is identified relative to preference between this alternative and the proposed project.

Hazards and Hazardous Materials

While this alternative would reduce the area of on-site development as described, it would still involve impacts to a number of known and (potentially) unknown hazardous material sites (including all of the RECs identified for the proposed project), as well as the four on-site groundwater monitoring wells located in the northeastern portion of the site (with these wells related to off-site groundwater remediation efforts, refer to Figures 6-1 and 4.7-1). In addition, the project site (including proposed residential development areas) would be subject to potentially significant impacts related to the "worst case" release of off-site hazardous materials under this alternative, similar to those described for the proposed project. Accordingly, potential impacts related to hazards and hazardous materials under the Reduced Project Alternative would remain significant. No real difference is identified between the development scenarios for this issue, and there is no preference relative to the proposed project.

Hydrology/Water Quality

The Reduced Project Alternative would entail a somewhat smaller impact footprint than the proposed project as described, although potential impacts related to hydrology/water quality would be similar, including potentially significant impacts to groundwater resources and water quality. Specifically, potential impacts to groundwater resources are associated with efforts to address on-site liquefaction hazards (such as the use of subsurface facilities/activities including subdrains, piles, soil vibrocompaction, grouting and deep mixing), while water quality concerns are related to the disposal of extracted groundwater (if required) that may contain contaminants.

Because this alternative would include development in similar areas as the proposed project with potential liquefaction hazards and shallow groundwater, associated potential impacts would remain significant. No real difference is identified between the development scenarios for this issue, and there is no preference relative to the proposed project.

Noise

Although this alternative would result in a lower level of development as described (471 units, or 118 residences fewer than the 589 proposed for the proposed project), a number of residential units under this alternative would be subject to potentially significant noise impacts related to ground-mounted heating, ventilation, and air conditioning (HVAC) systems, similar to those described for the proposed project (i.e., if ground-mounted HVAC equipment is located closer than 25 feet from adjacent residential property lines). As a result, while the impacts would remain significant under this alternative, there would be a decrease (by approximately 20 percent) in the real number of sensitive receptors potentially affected due to the reduction in home numbers.

A considerable contribution to a cumulative noise impact associated with off-site project traffic would be incrementally decreased with implementation of the Reduced Project Alternative. It would not, however, be expected to eliminate the considerable contribution to the cumulative impact assessed for the proposed project. Although some homes potentially could be relocated to another location within the overall Specific Plan area, the potential for this to occur is speculative at this time, and regardless, such exceedance would not be associated with the Reduced Project Alternative development.

Although significance levels would not change for alternative-related impacts, due to the decrease in numbers of potential sensitive receptors impacted, as well as the lowering of real numbers associated with the considerable contribution to the off-site cumulative impact, the Reduced Project Alternative would be preferred over the proposed project for the issue of noise.

Transportation and Traffic

As previously noted, no significant new impacts related to transportation/traffic were identified for the proposed project. Potentially significant and unavoidable impacts to public transit and significant and unavoidable impacts to several off-site roadway segments and intersections would occur from proposed project implementation (with associated mitigation determined to be infeasible due to right-of-way and jurisdictional limitations as outlined above in Section 6.3). This alternative would reduce the number of on-site residential units by approximately 20 percent, and the number of trips by 19 percent (once adjustments are made for changes in the ratio between single-family and multi-family residential units and their associated trips per day) compared to the proposed project.. Accordingly, it is anticipated that off-site roadway and intersection impacts under this alternative would be similar to those identified for the proposed project (and Specific Plan), with generally the same significant and unavoidable impacts. One significant impact at Willow Street and Thornton Avenue would be reduced to levels below significant (see Table 4.10-4 of this SEIR for reference). In this instance, proposed project traffic would result in a drop in LOS to below 35 seconds delay (from LOS C to D) in the a.m. peak hour. With a reduction of 19 percent in alternative-generated the traffic, the delay would no

longer exceed 35 seconds and the LOS would not change.1 The significant impact would not occur under the Reduced Project Alternative. All other proposed project significant delays would lessen incrementally, but would not be lowered to less than significant impact levels.

As previously described, an equivalent number of units could be added in other portions of the Specific Plan area. The potential for this to occur is speculative at this time, however, and these trips would not be associated with development of Gateway Station West under either the proposed project or this alternative.

Because of the incrementally improved traffic flows with slightly lesser delays overall, as well as the focused improvement to LOS for the Willow Street/Thornton Avenue intersection under the Reduced Project Alternative, the proposed project would be less preferred than this alternative for the issue of transportation/traffic.

Conclusion

Implementation of the Reduced Project Alternative would be anticipated to result in generally incremental reductions of impacts related to air quality, biological resources, cultural resources and both direct and cumulative noise and transportation/traffic, with impacts to geology and soils, hazards and hazardous materials, and hydrology/water quality expected to be similar to those described for the proposed project. All CEQA levels of impact would remain the same except for the one intersection at Willow Street/Thornton Avenue under Existing Plus Project conditions, as noted above. Excluding the focused hazardous materials and traffic issues, which would remain significant and unmitigable for both the proposed project and alternative, all impacts would be mitigated to less than significant levels for both the alternative and proposed project.

Relative to compliance with proposed project objectives, both the proposed project and the Reduced Project Alternative would be responsive to most proposed project objectives. Both projects generally would: (1) provide on-site residential development consistent with the densities identified in the Dumbarton TOD Specific Plan and the City General Plan Land Use Element, including housing needs identified during the period of 2015 to 2023 in the 2015 Housing Element Update; (2) provide a mix of housing opportunities from single-family to multi-family housing to meet the City's housing needs; (3) create a compact, walkable community with access to employment opportunities; (4) provide residential units within walking distance of the future, planned transit station to generate the ridership necessary to support the station in keeping with the Dumbarton TOD Specific Plan; (5) permanently preserve and/or restore sensitive biological resources (including wetlands) in the southwestern portion of the Gateway Station West project site; (6) set aside land for open space preservation and recreation opportunities, including the candidate trail proposed for San Francisco Bay Trail

[1] Tables 4.10-4 and 4.10-5 specify the increase in delay attributed to the total Specific Plan traffic over existing conditions, and no project conditions in 2035, respectively. By subtracting the future no project delay from the projected (with project) delay, and then dividing that number by the percentage less traffic that the alternative would contribute, it is possible to identify the difference in seconds between scenarios with and without the alternative.

status; and (7) develop a focused new community with a distinct identity, architectural style and sense of place while being compatible with existing and planned neighborhoods.

The proposed project would be more responsive to housing items 1, 2 and 4 as it would provide approximately 20 percent more homes than the alternative, which would more closely adhere to the Dumbarton TOD Specific Plan and updated Housing Element densities and mix for the parcel (as well as open space preserve), as well as the related Dumbarton TOD Specific Plan goal of development of predominantly vacant land for its highest and best use. The proposed project would place 589 residential units (93 percent of the General Plan goal) on the site, but would have less medium high density housing. While both development scenarios would contain open space area, the Reduced Project Alternative would provide an additional 12.5 acres (or 30 percent) more. The Reduced Project Alternative also would be more responsive to item 5 as the larger open space set aside would be preferred over the smaller amount of open space associated with the proposed project. Overall, the differences in objectives attainment are considered less than substantial, with the two development scenarios being considered similar when the incremental variation in pros and cons of the two plans are weighed against each other.

The differences in the environmental impacts between the two development scenarios related to air quality, biological and cultural resources, noise and traffic, compared with the generally similar attainment in objectives (excluding only the precise number of homes proposed and "highest and best" use of a generally vacant parcel), result in the Reduced Project Alternative being slightly preferred over the proposed project.

6.6.4 Wetland Avoidance Alternative

Under the Wetland Avoidance Alternative, development would be limited to the northeastern and southeastern portions of the site, with an overall development area of approximately 10.4 acres versus approximately 41 for the proposed project. This alternative would include a total of 181 residential units compared to 589 for the proposed project (refer to Figures 3-5 and 6-2, *Wetland Avoidance Alternative*), which would result in 408 fewer units. A trail connection would be provided. Similar to the proposed project, it is assumed that the trail would be aligned along proposed alternative development (as opposed to being placed all along the western parcel boundary as shown under the approved Specific Plan). Because the residential development areas associated with the Wetland Avoidance Alternative are separated from each other by open space and irregular in shape, however, a trail simply aligned along the western boundary of these uses would be circuitous. The proposed trail alignment for this alternative would trend along the parcel eastern boundary (along Hickory Street), which would also keep it from bisecting the large open space set aside associated with this alternative. The trail would continue to a point north of the Gateway Station West parcel's northeastern boundary to intersect with the current planned trail alignment as shown on Figure 3-4 of the Dumbarton TOD Specific Plan EIR Land Use Map. As previously noted, significant impacts identified for the proposed project include air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology/water quality, and noise. In addition, off-site transportation/traffic impacts related to roadway/intersection operations were concluded to be significant and unavoidable under both the Specific Plan and proposed project analyses.

Throughout this section, intermittent reference has been made to the potential for any alternative reductions in units from the proposed project (or Specific Plan) to potentially be accommodated through transfer to another location within the Specific Plan. Given the large number of units available for transfer under the Wetland Avoidance Alternative (408 units to match the proposed project, or up to 491 units to match the approved Specific Plan), however, it is considered unlikely that this number could be accommodated within other areas of the Specific Plan for which precise plans have not yet been developed.

Summary descriptions of potential impacts from the Wetland Avoidance Alternative, relative to the proposed project, are provided below.

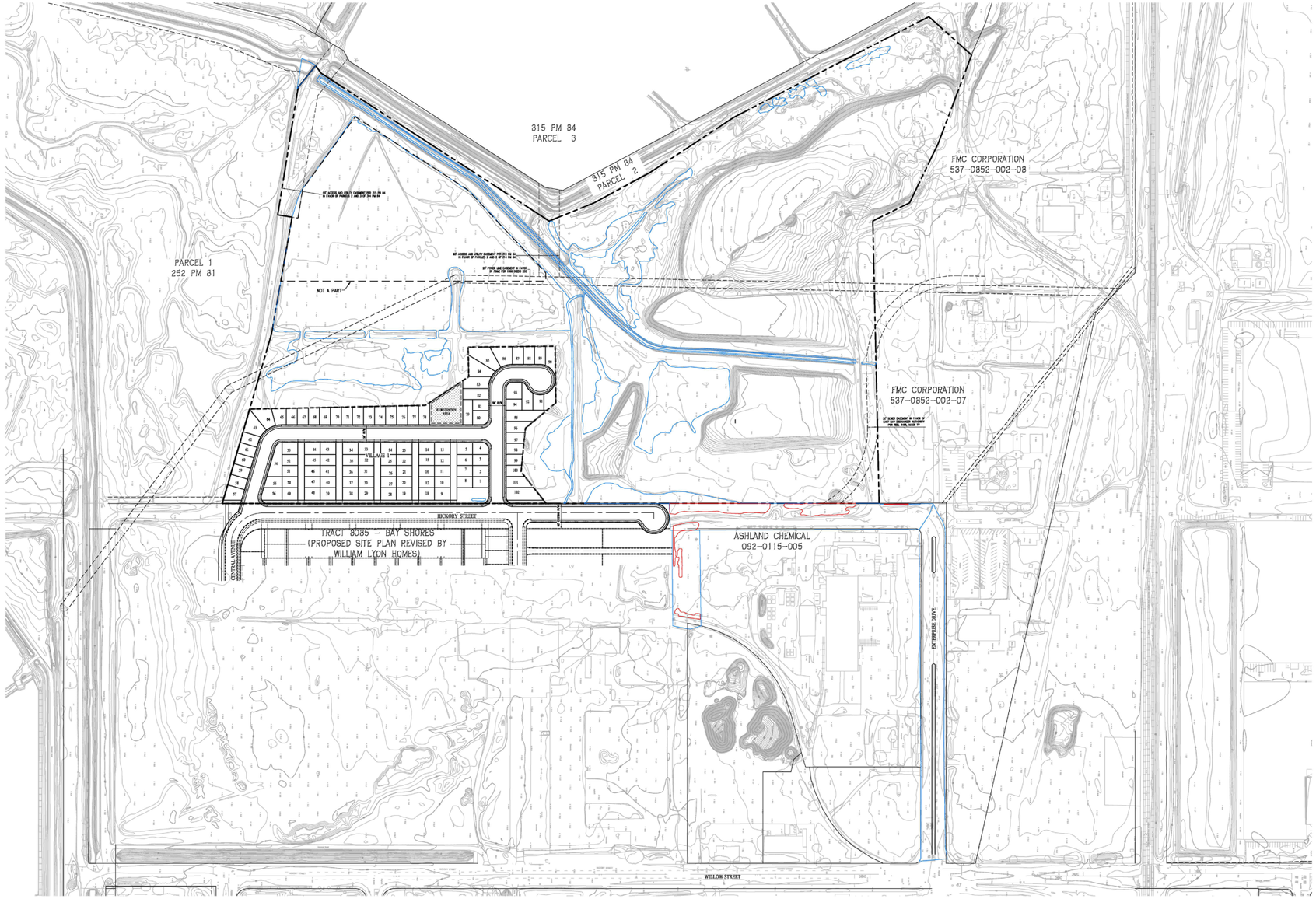
Air Quality

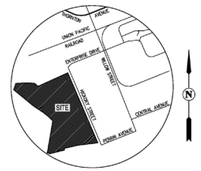
This alternative would reduce the overall level of development and associated air quality emissions, and would entail development of approximately 31 percent of the units identified for the proposed project. No significant operational impacts were identified for the proposed project and this alternative would additionally (substantially) lower the less than significant impact as the number of cars associated with the proposed project would be substantially reduced based on fewer homes and associated drivers. Because construction-period air quality impacts are associated with identification of maximum construction activity per day, and that level of activity is expected to remain constant regardless of the specific numbers of residential units actually constructed, construction-period air quality emissions are expected to be consistent with those identified for the proposed project. As shown in Table 4.2.7, *Maximum Daily Construction Emissions*, this level would exceed the associated threshold of 54 lbs/day. As a result, short-term air quality (NO_X) impacts under this alternative would remain significant. Given the substantial reduction in grading footprint and amount of vertical construction required, the timeframe (duration) for alternative implementation could be substantially shorter.

Although no CEQA-significant impacts associated with the proposed project would be eliminated through alternative implementation, the reduction in operational emissions combined with an anticipated shorter emissions period during construction results in the Wetland Avoidance Alternative being preferred over the proposed project for the issue of air quality.

Biological Resources

The Wetland Avoidance Alternative would result in a smaller overall area of disturbance – a reduction of 75 percent – with a corresponding substantial reduction in impacts to biological habitats and associated species. Implementation of this alternative would avoid all impacts to wetlands and other waters of the U.S. on the project site and off-site improvement areas (refer to Figures 6-2 and 4.3-1). The developable footprint would be almost wholly located within ruderal/disturbed and non-native grassland habitats. This alternative would also correspondingly reduce potential impacts to sensitive species, although potential impacts would remain to species associated with affected habitats (e.g., non-native grassland), including western burrowing owl and other raptors. This alternative would result in similar impacts to protected trees as identified for the proposed project. Based on the noted conditions, potential CEQA impacts to biological resources under the Reduced Project Alternative would remain significant, although overall impact levels would be substantially reduced by avoiding the wetlands and other waters of the





VICINITY MAP
NOT TO SCALE

GENERAL NOTES:

1. OWNER/DEVELOPER: DUMBARTON AREA 2, LLC
500 LA GONDA WAY, SUITE 102
DANVILLE, CA 94526
CONTACT: GLENN BROWN
(925) 362-3749

2. ENGINEER: CARLSON, BARBEE & GIBSON, INC.
2633 CAMINO RAMON, SUITE 350
SAN RAMON, CA 94583
CONTACT: GREG MILLER
(925) 866-0322

3. SOILS ENGINEER: BERLOGAR, STEVENS & ASSOCIATES
5587 SUNOL BOULEVARD
PLEASANTON, CA 94566
CONTACT: FRANK BERLOGAR
(925) 484-0220
(925) 846-9645 (FAX)

4. EXISTING USE: LIGHT INDUSTRIAL

5. SUBDIVISION AREA: 54.53±

6. NUMBER OF UNITS 181 UNITS

7. THIS PROPERTY LIES IN THE JURISDICTION OF:
FIRE PROTECTION
CITY OF NEWARK FIRE PROTECTION DISTRICT
DOMESTIC WATER
ALAMEDA COUNTY COUNTY WATER DISTRICT
SANITARY SEWER
UNION SANITARY DISTRICT
STORM DRAIN WITHIN STREETS, LANES & PASEOS
CITY OF NEWARK (SDE)
STORM DRAIN WITHIN PRIVATE YARDS
PRIVATELY MAINTAINED BY HOMEOWNERS (PSDE)
GAS & ELECTRIC SERVICE
PACIFIC GAS & ELECTRIC
TELEPHONE SERVICE
AT&T

8. ASSESSORS PARCEL NUMBERS: 537-0852-007

9. BENCHMARK: CITY OF NEWARK OFFICIAL BENCHMARK NO. 62, ALSO BEING AN ALAMEDA COUNTY BENCHMARK, THE TOP OF CURB AT STORM WATER INLET AT THE NORTH-EAST CORNER OF THORNTON AVENUE AT WILLOW STREET, ELEVATION TAKEN AS 11.39 (NAVD 88) (8.661 NGVD 29 PER CITY OF NEWARK RECORDS).

10. TOPOGRAPHY: PREPARED BY HJW GEOSPATIAL, INC. DATED MAY 2005

11. FLOOD ZONE: ZONED X AND AE
FLOOD INSURANCE RATE MAP (FIRM)
COMMUNITY PANEL NUMBER: 060009 0005 F

LAND USE SUMMARY	
GATEWAY STATION PROJECT SITE	
DEVELOPED	AREA (AC)
SINGLE-FAMILY LOTS	4.24
MULTI-FAMILY LOTS	0
PUBLIC STREETS	1.98
PRIVATE STREETS & ALLEYS	0.44
SUBTOTAL	7.36
OPEN SPACE	AREA (AC)
PARKS	0
TRAILS	0
BIO-RETENTION	0.21
NATURAL OPEN SPACE	31.71
PRESERVED WATERS OF THE U.S.	15.25
SUBTOTAL	47.17
TOTAL	54.53
HICKORY STREET ROW	1.83
'A' AVENUE	0.83
ENTERPRISE DRIVE ROW	1.95
CULVERT EASEMENT	0.25
TOTAL PROJECT AREA	58.80

UNIT SUMMARY	
VILLAGE	NUMBER OF UNITS
VILLAGE 1 - 25 x 92 SA FRONT	102
TOTAL	102

WATERS OF THE U.S. SUMMARY	AREA (AC)
WATERS OF THE U.S. PRESENT ON SITE	15.25
WATERS OF THE U.S. PERMANENTLY AFFECTED ON SITE	0.00
WATERS OF THE U.S. TEMPORARILY AFFECTED ON SITE	0.00
WATERS OF THE U.S. PRESENT OFF SITE	0.50
WATERS OF THE U.S. PERMANENTLY AFFECTED OFF SITE	0.00
WATERS OF THE U.S. TEMPORARILY AFFECTED OFF SITE	0.00
WATERS OF THE U.S. TOTAL	15.75
WATERS OF THE U.S. PERMANENTLY AFFECTED TOTAL	0.00
WATERS OF THE U.S. TEMPORARILY AFFECTED TOTAL	0.00
WETLANDS PRESERVED	9.77
NOT A PART: WATERS OF THE U.S. WITHIN 6-ACRE DONATION	5.98

LEGEND
- SUBDIVISION BOUNDARY
- OFFSITE AREA
- WATERS OF THE U.S. BOUNDARY

TRACT 8099
GATEWAY STATION WEST
WETLAND AVOIDANCE ALTERNATIVE

CITY OF NEWARK ALAMEDA COUNTY CALIFORNIA

0' 100' 300' 400'
SCALE: 1" = 100'
DATE: JULY 20, 2015

Carlson, Barbee & Gibson, Inc.
CIVIL ENGINEERS • SURVEYORS • PLANNERS
2633 CAMINO RAMON, SUITE 350, SAN RAMON, CALIFORNIA 94583
(925) 866-0322
www.cbandg.com

S:\PROJECTS\DJDAT-ALL\DAT-02_GatewayStationCEQA\Figures\EIR.indd\ALT DAT-01 04/02/15 - JH

Source: Carlson, Barbee & Gibson, Inc. 2015

Wetland Avoidance Alternative

GATEWAY STATION WEST

Figure 6-2

U.S., and correspondingly, a substantial portion of habitats on the project site. Indirect impacts to sensitive species would be substantially reduced as the alternative would include a significantly lower development intensity next to open space; however, this alternative would not benefit from site remediation activities, and the north/south drainage ditch would not be reconnected with the southern segment of the drainage ditch. As a result, the habitat along the drainage ditch would not be expected to improve as it would under the proposed project. This alternative would be preferred over the proposed project based on wetlands avoidance, as well as the large reductions in potential effects to sensitive species.

Cultural Resources

Although there are no known culturally significant resources on site and their discovery is considered unlikely, a potential for discovery of previously unidentified buried archaeological materials (with associated potential for significant impacts) was conservatively assessed for the proposed project (including both on-site and off-site improvement areas). As noted above, the Wetland Avoidance Alternative would result in an approximately 75 percent smaller impact area of the project site. Although the potential for impacts is unknown at this time, the reduction in site disturbance area would result in a substantially lowered potential for impact, and a related preference for the Wetland Avoidance Alternative over the proposed project.

Geology and Soils

This alternative would involve a smaller overall development area as noted, but would encounter similar conditions as described for the proposed project related to geologic hazards including seismic ground shaking, liquefaction and related effects, manufactured slope instability, geologic/soil instability (e.g., corrosive soils, excavation/trench stability, and shallow bedrock/groundwater), and expansive soils. Potential impacts related to geology and soils under the Wetland Avoidance Alternative would remain significant. These impacts are associated primarily with implementation of appropriate building standards, however, as opposed to project effects on the surrounding environment. As a result, there is no real differentiation between the development scenarios for this issue, and no identified difference relative to preference relative to the proposed project.

Hazards and Hazardous Materials

This alternative would reduce the area of on-site development by approximately 75 percent, with project-related remediation occurring only in the vicinity of alternative build area. The alternative would still involve impacts to the following RECs identified for the proposed project: (1) REC No. 2, impacted groundwater, including the four on-site groundwater monitoring wells located in the northeastern portion of the site (with these wells associated with off-site groundwater remediation efforts, refer to Figures 6-2 and 4.7-1); (2) REC No. 4, former Newark Sportsman's Club (NSC) area; (3) REC No. 5, pistol range; (4) REC No. 6, naturally occurring asbestos (NOA) in the serpentinite rock outcrop; and (5) REC No. 9, unidentified contaminates related to previous on-site industrial activities). In addition, the project site (including proposed residential development areas) would be subject to potentially significant impacts related to the "worst case" release of off-site hazardous materials under this alternative, similar to those described for the proposed project. Accordingly, while potential footprint impacts related to

hazards and hazardous materials under the Reduced Project Alternative would be reduced relative to the proposed project, impacts would remain significant. In addition, remediation that would occur for developable portions of the proposed project would not occur within the affected open space areas of the project. The combination of developable portions of the site requiring substantial remediation, combined with retention of large open space areas without remediation (but containing hazards issues), result in the Wetlands Avoidance Alternative being less preferred than the proposed project for the issues of hazards/hazardous materials.

Hydrology/Water Quality

The Wetland Avoidance Alternative would entail a smaller impact footprint than the proposed project, although potential impacts related to hydrology/water quality would be generally similar, including impacts to groundwater resources and water quality. Specifically, potential impacts to groundwater resources are associated with efforts to address on-site liquefaction hazards (such as the use of subsurface facilities/activities including subdrains, piles, soil vibrocompaction, grouting and deep mixing), while water quality concerns are related to the disposal of extracted groundwater (if required) that may contain contaminants. Because this alternative would include development in areas with potential liquefaction hazards and shallow groundwater, associated potential impacts would remain significant. Excluding the issue of potential disposal of contaminated groundwater, these impacts are associated primarily with implementation of appropriate building standards, however, as opposed to project effects on the surrounding environment. As a result, there is no substantial difference between the development scenarios for this issue, and no identified difference between this alternative and the proposed project.

Noise

Although this alternative would result in fewer homes constructed (181 versus 589, or a reduction of 69 percent of residential units compared to the proposed project), a number of residential units under this alternative would be subject to potentially significant noise impacts related to ground-mounted HVAC systems, similar to those described for the proposed project (i.e., if ground-mounted HVAC equipment is located closer than 25 feet from adjacent residential property lines). As a result, while impacts would remain significant under the Wetland Avoidance Alternative, there would be a decrease (by approximately 69 percent) in the real number of sensitive receptors affected due to the reduction in home numbers from the proposed project.

A considerable contribution to a cumulative noise impact associated with off-site (off Gateway Station West, at Enterprise Street west of Willow Street) proposed project traffic also would be substantially decreased with implementation of this alternative. Although the cumulative noise impact would remain, it is likely that the alternative's contribution would be reduced to a less than considerable level, eliminating this significant cumulative contribution impact assessed to the proposed project.

As a result, although the CEQA significance level for potential HVAC impacts would not change with alternative implementation, because of the substantial decrease in numbers of potential sensitive receptors impacted, as well as the likelihood for elimination of a considerable contribution to a

focused cumulative off-site impact identified for the proposed project, the Wetland Avoidance Alternative would be preferred over the proposed project for the issue of noise.

Transportation and Traffic

As previously noted, no significant new impacts related to transportation/traffic were identified for the proposed project. Potentially significant and unavoidable impacts to public transit and significant and unavoidable impacts to several off-site roadway segments and intersections would result from Specific Plan (and proposed project) implementation (with associated mitigation determined to be infeasible due to right-of-way and jurisdictional limitations as outlined above in Section 6.3). This alternative would reduce both the number of on-site residential units (and associated traffic generation once adjustments are made for changes in the ratio between single-family and multi-family residential units and their associated trips per day) by approximately 69 percent compared to the proposed project. The reduction in numbers of trips and contribution to LOS impacts would vary substantially between this alternative and the proposed project.[2]

Based on the reduction of traffic associated with this alternative, the following impacts identified as significant under the proposed project would not occur under the Wetland Avoidance Alternative:

- Willow Street/Thornton Avenue a.m. (direct impacts)
- Cedar Boulevard/Thornton Avenue a.m. (direct impacts)
- SR-84 eastbound ramps (cumulative impacts)
- Gateway Boulevard/Thornton Avenue p.m. (cumulative impacts)
- Cherry Street/Thornton Avenue p.m. (cumulative impacts)
- Cherry Street/Mowry Avenue a.m. (cumulative impacts)
- Newark Boulevard/Thornton Avenue (cumulative impacts)
- Cherry Street/Central Avenue a.m. and p.m. (cumulative impacts)

A few additional contributions to cumulative effects would remain significant (all of these intersections are projected to operate at LOS F conditions in 2035) but would substantially lower project contributions. This would occur at Willow Street/Enterprise Drive in both the a.m. and p.m. hours and Cherry Street/Mowry Avenue in the p.m. hour.

The reduction in significant contributions to congestion at these intersections results in the Wetland Avoidance Alternative being preferred for the issues of transportation/traffic over the proposed project.

[2] See footnote 1, under Reduced Project Alternative.

Conclusion

Implementation of the Wetland Avoidance Alternative would be anticipated to result in a substantial reduction of impacts to biological resources and transportation/traffic relative to the proposed project, as well as potential but currently unknown impacts to cultural resources (although impacts would all remain significant), as well as reductions in impacts related to air quality and noise (with these impacts also to remain significant). Proposed project impacts to jurisdictional waters would be eliminated under this alternative. Potential impacts to geology and soils, and hydrology/water quality under this alternative are expected to be similar to those described for the proposed project, and would remain significant. The alternative would be slightly less preferred than the proposed project for the issue of hazards and hazardous materials. Excluding the focused hazardous materials and traffic issues, which would remain significant and unmitigable for both the proposed project and alternative, all impacts would be mitigated to less than significant levels for both the alternative and proposed project.

The Wetland Avoidance Alternative would provide a total of 181 residential units in support of the residential/development objectives specified in the Specific Plan and for the proposed project. It would be substantially less responsive to each of the following goals, however, as it would only provide approximately 25 percent of the housing provided by the proposed project: (1) provide on-site residential development consistent with the densities identified in the Dumbarton TOD Specific Plan and the City General Plan Land Use Element, including housing needs identified for the period of 2015 to 2023 in the 2015 Housing Element Update; (2) provide a mix of housing opportunities from single-family to multi-family housing to meet the City's housing needs; (3) create a compact, walkable community with access to employment opportunities; and (4) provide residential units within walking distance of the future, planned transit station to generate the ridership necessary to support the station in keeping with the Dumbarton TOD Specific Plan. Based on the increased amount of open space, it would be substantially more responsive to the following two goals: (5) permanently preserve and/or restore sensitive biological resources (including wetlands) in the southwestern portion of the Gateway Station West project site; (6) set aside land for open space preservation and recreation opportunities, including the candidate trail proposed for San Francisco Bay Trail status. It would be expected to be equally responsive to the following objective: (7) develop a focused new community with a distinct identity, architectural style and sense of place while being compatible with existing and planned neighborhoods.

The Wetland Avoidance alternative would be preferred over the proposed project for environmental reasons and would be less preferred than the proposed project in terms of meeting objectives.

6.7 SUMMARY OF ALTERNATIVES ANALYSIS

6.7.1 Comparison of Proposed Project Alternatives

Table 6-1, *Comparison of Proposed Project and Alternative Impacts*, provides a comparison of the impacts resulting from implementation of the proposed project and the identified project alternatives. In summary, the No Project/No Build Alternative would avoid all impacts identified for the proposed project, including air quality, biological resources, cultural resources,

geology and soils, hazards and hazardous materials, hydrology/water quality, noise, and transportation/traffic (including off-site roadway segment and intersection impacts identified in the Specific Plan analysis and also applicable to the proposed project). With respect to hazards and hazardous materials, however, this alternative would also reduce the likelihood that existing on-site contamination would be fully remediated, as required for the proposed project.

The Existing Specific Plan Alternative would result in incrementally increased contributions to significant and unavoidable transportation/traffic impacts, a potential new significant and potentially unavoidable operational impact relative to air quality (NO_X) that would not occur with the proposed project, and a slightly increased impact to biological resources associated with an improved trail surrounding the open space/preserve area. The proposed project is preferred over the Existing Specific Plan Alternative.

The Reduced Project Alternative would be expected to result in generally similar impacts to all environmental issue areas as those identified for the proposed project, with relatively minor reductions of impacts related to air quality, biological and cultural resources, noise and traffic due to the reduced scale of development (although these reduced impacts would remain significant under CEQA). This alternative would be slightly preferred over the proposed project.

Although impacts would remain significant for the issues of biology and transportation/traffic, the Wetland Avoidance Alternative would substantially reduce impacts to biological resources due to the avoidance/minimization of impacts to wetland habitats (complete avoidance of federal/state jurisdictional areas), unknown but potential impacts to cultural resources based on the substantially reduced footprint, as well as elimination of a number of significant traffic impacts to specific intersections (and improvements in LOS over the proposed project and other alternatives overall), as cited above. The Wetland Avoidance Alternative also would result in reductions in duration of significant construction-period air quality impacts, as well as likely elimination of a substantial contribution to an off-site cumulative noise impact. The reduction in alternative footprint would not greatly minimize hazards and hazardous materials effects identified for the proposed project and would result in a substantially increased area which would not receive any alternative-related clean up. Although impacts would remain significant for all topical issues the very substantial reductions in footprint impacts associated with biological resources, as well as the notable reductions in traffic impacts, result in this alternative being preferred over the proposed project.

6.7.2 Environmentally Superior Alternative

Based on the information provided above in Sections 6.1 through 6.6, the No Project/No Build Alternative would be the environmentally superior alternative. Specifically, although hazardous materials remediation would not occur, this alternative would avoid all significant impacts associated with the proposed project, including impacts identified for the issues of air quality, biological and cultural resources, geology and soils, hazards and hazardous materials, hydrology/water quality, noise, and transportation/traffic (including off-site roadway segment and intersection impacts identified in the Specific Plan analysis and also applicable to the proposed project).

Pursuant to Section 15126(e)(2) of the State CEQA Guidelines, "…if the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." Accordingly, in lieu of the No Project/No Build Alternative, the Wetland Avoidance Alternative is identified as the environmentally superior alternative. This conclusion is based on the fact that this alternative would substantially reduce identified significant impacts to biological resources compared to the proposed project and Reduced Development Alternative, by avoiding all impacts to wetlands/jurisdictional areas. It also would eliminate nine significant project-related traffic impacts to intersections/state route on-ramps and would generally lower alternative-related contributions to intersections that remain significantly impacted under cumulative conditions.

Table 6-1
COMPARISON OF PROPOSED PROJECT AND ALTERNATIVE IMPACTS

Environmental Issue Area[1]	Proposed Project	No Project/No Build Alternative	No Project/ Existing SP Alternative	Reduced Project Alternative	Wetland Avoidance Alternative
Air Quality	SM	N	SU (operational NO_X)+	SM-	SM-
Biological Resources	SM	N	SM+	SM-	SM-[2]
Cultural Resources[3]	SM	N	SM	SM -	SM -
Geology and Soils	SM	N	SM	SM	SM
Hazards and Hazardous Materials	SM	N[4]	SM	SM	SM+
Hydrology/Water Quality	SM	N	SM	SM	SM
Noise	SM	N	SM+	SM-	SM-
Transportation/Traffic	SU[5]	N	SU[4]+	SU[4] -	SU[4]-

[1] Significant new impacts (i.e., project-level impacts beyond those identified in the Specific Plan EIR, with the exception of transportation/traffic as noted below).

[2] While still significant, impacts would be substantially reduced by substantially avoiding wetlands/jurisdictional areas.[3] This impact is unknown at this time as it relates to the potential for disturbance of currently unidentified resources.

[4] While no impacts would occur under this alternative, it would reduce the likelihood that existing on-site contamination would be fully remediated.

[5] Associated impacts to off-site roadways and intersections as identified in the Specific Plan analysis, but also applicable to the proposed project.

Notes: SM = significant but mitigable; SU = significant and unavoidable; N = no impact; - = Reduced impact level relative to the proposed project; + = Increased impact level relative to the proposed project.

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Section 7.0

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Section 8.0

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Section 9.0

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9.0 REFERENCES

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