Town of Tiburon

Draft Environmental Impact Report for the General Plan 2040

MARCH 2023

Prepared for:

Town of Tiburon
1505 Tiburon Boulevard
Tiburon, CA 94920

Prepared by:

De Novo Planning Group
1020 Suncast Lane, Suite 106
El Dorado Hills, CA 95762

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DRAFT EIR

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ACRONYMS AND ABBREVIATIONS

°C	degrees Celsius (Centigrade)
°F	degrees Fahrenheit
µg/m^3	micrograms per cubic meter
AAQS	Ambient Air Quality Standards
AB	Assembly Bill
ABAG	Association of Bay Area Governments
ACM	asbestos-containing material
ACP	Alternative Compliance Plan
AD	*anno domini*
ADA	Americans with Disabilities Act
ADT	average daily traffic
ADU	Accessory Dwelling Unit
ADWF	Average Daily Dry Weather Flow
afy	acre-feet per year
AIA	Airport Influence Area
AIC	Archaeological Information Center
AIRFA	American Indian Religious Freedom Act
ALUC	Airport Land Use Commission
ALUCP	Airport Land Use Compatibility Plan
AMI	Area Median Income
APCD	Air Pollution Control District
APE	Area of Potential Effect
APN	Assessor's Parcel Number
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
ARB	California Air Resources Board
ARPA	Archaeological Resources Protection Act
AST	aboveground storage tank
ASTM	American Society of Testing and Materials
ATC	ATC Group Services, LLC
ATCM	Airborne Toxic Control Measures

BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
BAU	Business as Usual
BCDC	San Francisco Bay Conservation and Development Commission
BCF	billion cubic feet
BCF/year	billion cubic feet per year
BMP	Best Management Practice
BMR	below-market rate
BVOC	biogenic volatile organic compound
C^2ES	Center for Climate and Energy Solution
CA FID	California Facility Inventory Database
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
CAL FIRE	California Department of Forestry and Fire Protection
Cal/EPA	California Environmental Protection Agency
Cal/OSHA	California Occupational Health and Safety Administration
CalEEMod	California Emissions Estimator Model
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CARE	Community Air Risk Evaluation
CARSS	Call a Ride for Sausalito Seniors
CASGEM	California Statewide Groundwater Elevation Monitoring
CASQA	California Stormwater Quality Association
CBC	California Building Standards Code
CC	Central Commercial
CCAA	California Clean Air Act
CCCC	California Climate Change Center
CCR	California Code of Regulations
CCTS	Central California Taxonomic System
CDCP	California Drought Contingency Plan
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission

CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERT	Community Emergency Response Teams
CESA	California Endangered Species Act
CFC	chlorofluorocarbon
CFR	Code of Federal Regulations
CH_4	methane
CHBC	California Historic Building Code
CHL	California Historical Landmark
CHP	California Highway Patrol
CHRIS	California Historical Resources Information System
CMP	Congestion Management Plan
CN	Neighborhood Commercial
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CNPSEI	California Native Plant Society Electronic Inventory
CNRA	California Natural Resources Agency
CO	carbon monoxide
CO_2e	carbon dioxide equivalent
CPUC	California Public Utilities Code
CRA	Cultural Resources Assessment
CRHR	California Register of Historical Resources
CUPA	Certified Unified Program Agency
CW	Commercial Waterfront
CWA	Clean Water Act
CWHR	California Wildlife Habitat Relationships
CWPP	Marin County Community Wildfire Protection Plan
dB	decibel
dBA	A-weighted decibel
DBH	diameter at breast height
DHS	Department of Homeland Security

DMP	Drought Management Program
DPM	diesel particulate matter
DPR	Department of Parks and Recreation
DTSC	California Department of Toxic Substances Control
du	dwelling unit
du/acre	dwelling unit per acre
DWR	Department of Water Resources
EAP	Emergency Action Plan
EDU	Equivalent Dwelling Units
EIR	Environmental Impact Report
EISA	Energy Independence and Security Act
EMF	electromagnetic field
EMS	Emergency Medical Services
EOP	Emergency Operations Plan
EPA	United States Environmental Protection Agency
EPCRA	Emergency Planning Community Right-to-Know Act
ESL	Environmental Screening Level
FAA	Federal Aviation Administration
FAR	floor area ratio
FCAA	Federal Clean Air Act
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FESA	Federal Endangered Species Act
FHSZ	Very High Fire Hazard Severity Zone
FHWA	Federal Highway Administration
FIGR	Federated Indians of Graton Rancheria
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
FRA	Federal Railroad Administration
FRAP	Fire and Resource Assessment Program
FTA	Federal Transit Administration
GGNA	Golden Gate Recreation Area
GGNRA	Golden Gate National Recreation Area

GHAD	Geologic Hazard Abatement District
GHG	greenhouse gas
GIS	Geographic Information System
gpm	gallons per minute
GPS	Global Positioning System
GSA	Government Services Administration
GWh	gigawatt-hours
GWh/y	gigawatt-hours per year
GWP	global warming potential
HAP	Hazardous Air Pollutants
HazMat	Hazardous Materials
HAZNET	Hazardous Waste Information System
HCD	Housing and Community Development
HCM	Highway Capacity Manual
HCP	Habitat Conservation Plan
HCP/NCCP	Habitat Conservation Plan/Natural Community Conservation Plan
HEU	Housing Element Update
HFC	hydrofluorocarbon
HOV/HOT	High Occupancy Vehicle/High Occupancy Toll
HPC	Historic Preservation Commission
HPD	Historic Properties Directory
HRA	Health Risk Assessment
HUD	United States Department of Housing and Urban Development
HVAC	heating, ventilation, and air conditioning
IPCC	United Nations Intergovernmental Panel on Climate Change
IRF	Intermediate Regional Flood
ISO	Insurance Services Office
ISTEA	Intermodal Surface Transportation Efficiency Act
IWMPs	Integrated Waste Management Plans
JADU	Junior Accessory Dwelling Unit
JPA	Joint Powers Authority
kBTU	kilo-British Thermal Units
kV	kilovolt

kW	kilowatt
kWh	kilowatt-hour
LAFCo	Local Agency Formation Commission
LCFS	Low Carbon Fuel Standard
L_{dn}	day/night average sound level
LED	light emitting diode
L_{eq}	equivalent sound level
LEV	low-emission vehicle
LGVSD	Las Gallinas Valley Sanitary District
LID	Low Impact Development
LOS	Level of Service
LRA	Local Responsibility Area
LSE	load-serving entities
LUST	Leaking Underground Storage Tank
LZ	Lighting Zones
LZ0	Very Low Lighting Zones
LZ1	Low Lighting Zones
LZ2	Moderate Lighting Zones
LZ3	Moderately High Lighting Zones
LZ4	High Lighting Zone
MBTA	Migratory Bird Treaty Act
MCE	Marin Clean Energy
MCEP	Marin Climate & Energy Partnership
MCM LHMP	Marin County Multi-jurisdiction Local Hazard Mitigation Plan
MCSTOPPP	Marin County Stormwater Pollution Prevention Program
MERV	Minimum Efficiency Reporting Value
mgd	million gallons per day
MLD	Most Likely Descendant
MM	Mitigation Measure
MMI	Modified Mercalli Intensity
MMRP	Mitigation Monitoring and Reporting Program
MMWD	Marin Municipal Water District
mph	miles per hour

MPO	Metropolitan Planning Organization
MRP	Municipal Regional Permit
MS4	Municipal Separate Storm Sewer System
MSDS	material safety data sheets
msl	mean sea level
MTC	Metropolitan Transportation Commission
MTS	Metropolitan Transportation System
M_W	Maximum Moment Magnitude
MW	megawatt
MWD	Metropolitan Water District of Southern California
MWELO	Model Water Efficient Landscape Ordinance
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NEHRP	National Earthquake Hazards Reduction Program
NEPA	National Environmental Policy Act
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NFIP	National Flood Insurance Program
NFPA	National Fire Protection Association
NHM	Natural History Museum of Los Angeles County
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NO_2	nitrogen dioxide
NOAA Fisheries	National Marine Fisheries Service
NOC	Notice of Completion
NOI	Notice of Intent
NOP	Notice of Preparation
NO_x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places

NWIC	Northwest Information Center
O_3	ozone
ODDS	Objective Design and Development Standards
OEHHA	California Office of Environmental Health Hazard Assessment
OHP	California Office of Historic Preservation
OHWM	ordinary high water mark
ONAC	Federal Office of Noise Abatement and Control
OPR	Governor's Office of Planning and Research
OSHA	Occupational Safety and Health Administration
Pb	lead
PCB	polychlorinated biphenyl
pCi/L	picocuries per liter
PDA	Priority Development Area
PFC	perfluorocarbon
PG&E	Pacific Gas and Electric Company
Phase I ESA	Phase I Environmental Site Assessment
PM_{10}	particulate matter, including dust, 10 micrometers or less in diameter
$PM_{2.5}$	particulate matter, including dust, 2.5 micrometers or less in diameter
PM_x	particulate matter
ppb	parts per billion
ppm	parts per million
PPV	peak particle velocity
PR	Planned Development-High Density Residential
PRC	Public Resources Code
PSD	Prevention of Significant Deterioration
PVC	polyvinyl chloride
RBRA	Richardson Bay Regional Agency
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
Recology	Integrated Resource Recovery Company
RecycleSmart	Central Contra Costa County Solid Waste Authority
REL	Reference Exposure Level
RHNA	Regional Housing Needs Assessment

RMP	Risk Management Plan
rms	root mean square
ROG	reactive organic gases
RPS	Renewables Portfolio Standard
RS-10	Single-Family Residential
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SAFE	Safer Affordable Fuel-Efficient
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SCA	Stream Conservation Area
SCH	State Clearing House
SCS	Sustainable Communities Strategy
SCWA	Sonoma County Water Agency
SF_6	sulfur hexafluoride
SFBAAB	San Francisco Bay Area Air Basin
SFHA	Special Flood Hazard Area
SHC	California Street and Highways Code
SMARA	California Surface Mining and Reclamation Act
SMCSD	Sausalito–Marin City Sanitation District
SMFD	Southern Marin Fire Protection District
SO_2	sulfur dioxide
SOI	Sphere of Influence
SR	State Route
SRA	State Responsibility Area
SRTP	Short-Range Transit Plan
SSMP	Sewer System Management Plan
STP	Sewage Treatment Plant
State Water Board	California State Water Resources Control Board
SUSMP	Standard Urban Storm Water Mitigation Plan
SVP 2010	Society of Vertebrate Paleontology guidelines
SWEEP	State Water Efficiency and Enhancement Program
SWIS	Solid Waste Information System

SWPPP	Storm Water Pollution Prevention Plan
SWQMP	Storm Water Quality Management Plan
T-BACT	Best Available Control Technology for Toxins
TAC	toxic air contaminants
TAM	Transportation Authority of Marin
TAMDM	Transportation Authority of Marin Demand Model
TCM	transportation control measures
TDM	Transportation Demand Management
TDS	total dissolved solids
TDV	Time Dependent Valuation
TEA-21	Transportation Equity Act for the 21st Century
Tg	teragram
therms/y	therms per year
TIA	Traffic Impact Analysis
TIS	Traffic Impact Study
TMA	Transportation Management Association
TMDL	Total Maximum Daily Load
TOD	Transit Oriented Development
TRA	Temporary Refuge Areas
TSCA	Toxic Substances Control Act
TUHSD	Tamalpais Union High School District
UBC	Uniform Building Code
UCMP	University of California Museum of Paleontology
URM	Unreinforced Masonry
USACE	United States Army Corps of Engineers
USC	United States Code
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	underground storage tank
UWMP	Urban Water Management Plan
V/C	volume to capacity ratio
VdB	Vibration Velocity Level

VDECS	Verified Diesel Emission Control Strategies
VHFHSZ	Very High Fire Hazard Severity Zone
VIP	Volunteers In Public Safety
VLR	Very Low Density Residential
VMT	Vehicle Miles Traveled
VOC	volatile organic compounds
WDR	Waste Discharge Requirements
WQMP	Water Quality Management Plan
WSA	Water Supply Assessment
WUI	Wildland-Urban Interface
WWTP	Wastewater Treatment Plant
ZEV	Zero Emission Vehicle

EXECUTIVE SUMMARY

PURPOSE

This Draft Environmental Impact Report (Draft EIR) was prepared in accordance with and in fulfillment of the California Environmental Quality Act (CEQA) and the State CEQA Guidelines. As described in CEQA Guidelines Section 15121(a), an EIR is a public information document that assesses the potentially significant environmental impacts of a project. CEQA requires that an EIR be prepared by the agency with primary responsibility over the approval of a project (the lead agency). The Town of Tiburon is the lead agency for the proposed Tiburon General Plan Update. Public agencies are charged with the duty to consider and minimize environmental impacts of proposed development where feasible and have the obligation to balance economic, environmental, and social factors.

This Draft EIR has been prepared according to CEQA requirements to evaluate the potential environmental impacts associated with the implementation of the General Plan Update. This Draft EIR also discusses alternatives to the General Plan Update and proposes mitigation measures that would offset, minimize, or otherwise avoid potentially significant environmental impacts. This Draft EIR is intended to provide decision-makers and the public with information that enables consideration of the environmental consequences of the General Plan Update, and has been prepared in accordance with CEQA (California Public Resources Code [PRC] § 21000 *et seq.*) and the CEQA Guidelines (California Code of Regulations [CCR] Title 14, Division 6, Chapter 3).

PROJECT SUMMARY

PROJECT LOCATION

The Town is located on a peninsula which extends from southeastern Marin County into San Francisco Bay, approximately seven miles north of the City of San Francisco. Tiburon is located among the cities which line San Francisco Bay and make up the greater Bay Area. Primary access to Tiburon is by U.S. Highway 101, which connects to San Francisco to the south and San Rafael and Sonoma County to the north. Tiburon is also served by private ferry service to and from San Francisco, Sausalito, and Angel Island.

There are three key boundary lines addressed by the Project, which make up the study area for the General Plan 2040 EIR. These include the Town Limits, the Sphere of Influence (SOI), and the Planning Area.

> **Town Limits:** Includes the area within the Town's corporate boundary, over which the Town exercises land use authority and provides public services.

Sphere of Influence (SOI): The probable physical boundary and service area of the Town, as adopted by the Local Agency Formation Commission (LAFCO). An SOI may include both incorporated and unincorporated areas within which a city, town, or special district will have primary responsibility for the provision of public facilities and services.

Planning Area: For the purposes of the General Plan 2040, the Planning Area is the geographic area for which the General Plan 2040 provides a framework for long-term plans for growth, resource conservation, and service provision. State law requires the General Plan 2040 to include all territory within Tiburon's incorporated area as well as "any land outside its boundaries which in the planning agency's judgment bears relation to its planning" (California Government Code Section 65300). The Planning Area for the General Plan 2040 is made up of the incorporated Town of Tiburon, the unincorporated properties which are located along Paradise Drive, and the unincorporated properties located north of Tiburon Boulevard between the Town's western corporate limits and U.S. Highway 101.

PROJECT DESCRIPTION

The Town of Tiburon's General Plan was last prepared in 2005. The project analyzed in the EIR would update the General Plan, including goals, objectives, policies, and implementation programs that address the maintenance, preservation, improvement, and development in Tiburon. The Project would also include amendments to other elements of the City General Plan in order to maintain internal consistency, to provide consistency with recent changes in State law.

Refer to Section 2, Project Description, for a complete description of the General Plan Update.

SUMMARY OF ALTERNATIVES TO THE GENERAL PLAN

Below is a summary of the alternatives to the General Plan considered in Section 5.0, Alternatives to the Project.

NO PROJECT ALTERNATIVE

Under this alternative, Tiburon continues to operate and develop under the 2020 General Plan and Land Use Map. Under this alternative, the Town would not adopt General Plan 2040. The 2020 General Plan would continue to be implemented and no changes to the General Plan, including the Land Use Map, Circulation Diagram, goals, policies, or programs would occur. The 2020 General Plan was last comprehensively updated in 2006, and an update to the Housing Element was completed in 2016.

VILLAGE CENTERS ALTERNATIVE

Under this alternative, the General Plan and Land Use Map would focus more new development of multifamily housing near shopping areas within the Town. Specifically, development potential at Cove Shopping Center is increased to accommodate 49 units, while development potential of 4576 Paradise Dr. site is reduced to focus development on only 3 acres of site (maximum 49 units). This alternative would include the updated policy document (consistent with General Plan 2040), and would be required to adhere to the same policy guidance.

DOWNTOWN DENSITY ALTERNATIVE

Under this alternative, development potential in the Downtown is increased to allow 40-45 units per acre on all MU sites. Development potential of 4576 Paradise Dr. site is reduced to the units allowed under the 2020 General Plan (7 units). This alternative would include the updated policy document (consistent with General Plan 2040), and would be required to adhere to the same policy guidance.

AREAS OF CONTROVERSY

Pursuant to CEQA Guidelines Section 15123(b), a summary section must address areas of controversy known to the lead agency, including issues raised by agencies and the public, and it must also address issues to be resolved, including the choice among alternatives and whether or how to mitigate significant effects.

In accordance with CEQA Guidelines Section 15082, the Town of Tiburon circulated a Notice of Preparation (NOP) of an EIR for the General Plan on October 21, 2022, to trustee and responsible agencies, the State Clearinghouse (SCH), and the public. The 30-day public review period for the NOP then ended on November 28, 2022. A scoping meeting was held on October 27, 2022. The NOP and all comment letters received on the NOP are presented in Appendix A.

The NOP identified potential for significant impacts on the environment related to the following topical areas:

- Aesthetics, Light, and Glare
- Air Quality
- Biological Resources
- Cultural and Tribal Cultural Resources
- Energy
- Geology, Soils, and Seismicity
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use
- Noise
- Population and Housing
- Public Services and Recreation
- Transportation
- Utilities and Service Systems
- Wildfire

The NOP also identified certain topical areas where impacts were found to be less than significant because the General Plan's characteristics would not create such impacts. These topical areas include agriculture and forestry resources and mineral resources, and are evaluated in Section 6, Effects Found not to be Significant in this Draft EIR.

DISAGREEMENT AMONG EXPERTS

This Draft EIR contains substantial evidence to support all conclusions presented herein. It is possible that there will be disagreement among various parties regarding these conclusions, although the Town of Tiburon is not aware of any disputed conclusions at the time of this writing. Both the CEQA Guidelines and case law clearly provide standards for treating disagreement among experts. Where evidence and opinions conflict on an issue concerning the environment, and the lead agency knows of these controversies in advance, the EIR must acknowledge the controversies, summarize conflicting opinions of the experts, and include sufficient information to allow the public and decision makers to make an informed judgment about environmental consequences of the General Plan Update.

POTENTIALLY CONTROVERSIAL ISSUES

It is also possible that evidence will be presented during the 45-day statutory Draft EIR public review period that may create disagreement. Decision makers would consider this evidence during the public hearing process.

In rendering a decision on a project where there is disagreement among experts, decision makers are not obligated to select the most environmentally preferable viewpoint. Decision makers are vested with the ability to choose whatever viewpoint is preferable and need not resolve a dispute among experts. In their proceedings, decision makers must consider comments received concerning adequacy of the Draft EIR and address any objections raised in these comments. However, decision makers are not obligated to follow any directives, recommendations, or suggestions presented in comments on the Draft EIR, and can certify the Final EIR without needing to resolve disagreements among experts.

PUBLIC REVIEW OF THE REVISED DRAFT EIR

Upon completion of the Draft EIR, the Town of Tiburon filed a Notice of Completion (NOC) with the State Office of Planning and Research to begin the public review period (PRC § 21161). Concurrent with the NOC, this Draft EIR has been distributed to responsible and trustee agencies, other affected agencies, surrounding cities, and interested parties, as well as all parties requesting a copy of the Draft EIR in accordance with Public Resources Code 21092(b)(3). During the public review period, the Draft EIR, including the technical appendices, is available for review on the city's website (https://createtiburon2040.org/). A

hard copy of the Draft EIR can be viewed at the following location (please check with the facility for hours of operation):

Town of Tiburon
Community Development Department
1505 Tiburon Boulevard
Tiburon, CA 94920

Agencies, organizations, and interested parties have the opportunity to comment on the Draft EIR during the 45-day public review period. Written comments on this Draft EIR should be addressed to:

Town of Tiburon
Dina Tasini, Director of Community Development
1505 Tiburon Boulevard
Tiburon, CA 94920
dtasini@townoftiburon.org

Submittal of electronic comments in Microsoft Word or Adobe PDF format is encouraged. Upon completion of the public review period, written responses to all significant environmental issues raised will be prepared and made available for review by the commenting agencies at least 10 days prior to the public hearing before the Tiburon Planning Commission on the General Plan, at which the certification of the Final EIR will be considered. Comments received and the responses to comments will be included as part of the record for consideration by decision makers for the General Plan Update.

EXECUTIVE SUMMARY MATRIX

Table ES-1 below summarizes impacts, mitigation measures, and resulting level of significance after mitigation for the relevant environmental issue areas evaluated for the General Plan. The table is intended to provide an overview; narrative discussions for issue areas are included in the corresponding section of this Draft EIR. Table ES-1 is included in the Draft EIR as required by CEQA Guidelines Section 15123(b)(1).

TABLE ES-1: EXECUTIVE SUMMARY MATRIX

IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE BEFORE MITIGATION	LEVEL OF SIGNIFICANCE AFTER MITIGATION
SECTION 3.1—AESTHETICS, LIGHT, AND GLARE			
Impact 3.1-1: Development facilitated by the General Plan would not have a substantial adverse effect on a scenic vista.	None Required	Less than Significant	Less than Significant
Impact 3.1-2: Implementation of the General Plan would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a State scenic highway.	None Required	No Impact	No Impact
Impact 3.1-3: Development facilitated by the General Plan would not substantially degrade the existing visual character or quality of public views in non-urbanized areas.	None Required	Less than Significant	Less than Significant
Impact 3.1-4: Implementation of the General Plan would not substantially conflict with applicable zoning and other regulations governing scenic quality in urbanized areas.	None Required	Less than Significant	Less than Significant
Impact 3.1-5: Development facilitated by the General Plan would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.	None Required	Less than Significant	Less than Significant
Impact 3.1-6: Development facilitated by the General Plan, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to aesthetics.	None Required	Less than Significant	Less than Significant
SECTION 3.2—AIR QUALITY			
Impact 3.2-1: Implementation of the General Plan could conflict with or obstruct implementation of the applicable air quality plan.	None Required	Potentially Significant	Significant and Unavoidable
Impact 3.2-2: General Plan implementation would not result in a cumulatively considerable net increase of a criteria pollutant for which the project region is in nonattainment under applicable federal or State ambient air quality standard.	None Required	Less than Significant	Less than Significant
Impact 3.2-3: General Plan implementation could expose sensitive receptors to substantial pollutant concentrations.	**MM 3.2-1: Health Risk Assessments:** Developers of individual development projects within the Planning Area that could result in	Potentially Significant	Less than Significant

IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE BEFORE MITIGATION	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	significant toxic air contaminants during operation and/or construction that are located within 1,000 feet of a sensitive receptors(s), shall implement BAAQMD Guidelines and State Office of Environmental Health Hazard Assessment policies and procedures requiring Health Risk Assessments (HRAs) for residential development and other sensitive receptors. Screening area distances may be increased on a case-by-case basis if an unusually large source or sources of hazardous emissions are proposed or currently exist. Based on the results of the HRA, individual project applicants shall identify and implement measures (such as air filtration systems) to reduce potential exposure to particulate matter, carbon monoxide, diesel fumes, and other potential health hazards. Measures identified in HRAs shall be included into the site development plan as a component of each applicable individual development project.		
Impact 3.2-4: General Plan implementation would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.	None Required	Less than Significant	Less than Significant

IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE BEFORE MITIGATION	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Impact 3.2-5: General Plan implementation, in combination with other cumulative development, would not conflict with or obstruct implementation of the applicable air quality plan, or result in a cumulatively considerable net increase of criteria pollutants.	None Required	Potentially Significant	Significant and Unavoidable
Impact 3.2-6: General Plan implementation, in combination with other cumulative development, would not expose sensitive receptors to substantial pollutant concentrations.	**Implement MM 3.2-1**	Potentially Significant	Less than Significant
Impact 3.2-7: General Plan implementation, in combination with other cumulative development, would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.	None Required	Less than Significant	Less than Significant
SECTION 3.3—BIOLOGICAL RESOURCES			
Impact 3.3-1: Development facilitated by the General Plan would not have a substantial adverse effect, either directly or through habitat modifications, on candidate, sensitive, or on special-status species.	None Required	Less than Significant	Less than Significant
Impact 3.3-2: Development facilitated by the General Plan would not have a substantial adverse effect on riparian habitats, other sensitive natural communities, federally protected wetlands, or waters of the United States and/or State, through direct removal, filling, or hydrological interruption.	None Required	Less than Significant	Less than Significant
Impact 3.3-3: Development facilitated by the General Plan would not interfere substantially with the movement of any native resident or migratory fish, or wildlife, species or, with established native resident or migratory wildlife corridors or, impede the use of native wildlife nursery sites.	None Required	Less than Significant	Less than Significant
Impact 3.3-4: Development facilitated by the General Plan would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	None Required	Less than Significant	Less than Significant
Impact 3.3-5: Development facilitated by the General Plan would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.	None Required	Less than Significant	Less than Significant

IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE BEFORE MITIGATION	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Impact 3.3-6: Development facilitated by the General Plan, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to biological resources.	None Required	Less than Significant	Less than Significant
SECTION 3.4—CULTURAL RESOURCES AND TRIBAL CULTURAL RESOURCES			
Impact 3.4-1: Development facilitated by the Project has the potential to cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.	None Required	Less than Significant	Less than Significant
Impact 3.4-2: Development facilitated by the Project has the potential to cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5.	None Required	Less than Significant	Less than Significant
Impact 3.4-3: Development facilitated by the Project has the potential to disturb human remains, including those interred outside of formal cemeteries.	None Required	Less than Significant	Less than Significant
Impact 3.4-4: Development facilitated by the Project has the potential to cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k); and/or resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	None Required	Less than Significant	Less than Significant
Impact 3.4-5: Development facilitated by the Project, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to cultural resources.	None Required	Less than Significant	Less than Significant
SECTION 3.5—ENERGY			

IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE BEFORE MITIGATION	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Impact 3.5-1: Development facilitated by the General Plan would not result in the wasteful, inefficient, or unnecessary consumption of energy during project construction or operation, including transportation energy.	None Required	Less than Significant	Less than Significant
Impact 3.5-2: Implementation of the General Plan would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency.	None Required	Less than Significant	Less than Significant
Impact 3.5-3: Development facilitated by the General Plan, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to energy resources.	None Required	Less than Significant	Less than Significant
SECTION 3.6—GEOLOGY, SOILS, AND SEISMICITY			
Impact 3.6-1: Development facilitated by the General Plan would not directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death from rupture of an earthquake fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides.	None Required	Less than Significant	Less than Significant
Impact 3.6-2: Development facilitated by the General Plan would not result in substantial soil erosion or the loss of topsoil.	None Required	Less than Significant	Less than Significant
Impact 3.6-3: Development facilitated by the General Plan would not result in a significant impact related to development on unstable geologic units or soil, or geologic units or that would become unstable, or result in on- or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse.	None Required	Less than Significant	Less than Significant
Impact 3.6-4: Development facilitated by the General Plan would not result in the construction of structures on expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.	None Required	Less than Significant	Less than Significant
Impact 3.6-5: Development facilitated by the General Plan would not place septic tanks or alternative wastewater disposal systems in areas where soils are not capable of supporting such uses.	None Required	Less than Significant	Less than Significant
Impact 3.6-6: Development facilitated by the General Plan could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	**MM 3.6-6:** If any paleontological resources (fossils) or unique geologic features are discovered	Potentially Significant	Less than Significant

IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE BEFORE MITIGATION	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	during grading or construction activities within the project area, work shall be halted immediately within 50 feet of the discovery, and the Town Planning Division shall be immediately notified. The project applicant will retain a qualified paleontologist to evaluate the resource and prepare a recovery plan in accordance with Society of Vertebrate Paleontology guidelines (SVP 2010). The recovery plan may include but is not limited to a field survey, construction monitoring, sampling and data recovery procedures, museum storage coordination for any specimen recovered, and a report of findings. Recommendations in the recovery plan that are determined by the Town to be necessary and feasible will be implemented by the applicant before construction activities resume in the area where the paleontological resources were discovered.		
Impact 3.6-7: Development facilitated by the General Plan, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to geology, soils, seismicity, or paleontological resources.	**Implement Mitigation Measure 3.6-1**	Potentially Significant	Less than Significant

IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE BEFORE MITIGATION	LEVEL OF SIGNIFICANCE AFTER MITIGATION
SECTION 3.7—GREENHOUSE GAS EMISSIONS			
Impact 3.7-1: Development facilitated by the General Plan could directly or indirectly generate GHG emissions that may have a significant impact on the environmentt.	None Required	Potentially Significant	Significant and Unavoidable
Impact 3.7-2: Development facilitated by the General Plan would not conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions.	None Required	Less than Significant	Less than Significant
Impact 3.7-3: Development facilitated by the General Plan, in combination with past, present, and reasonably foreseeable projects, could result in significant cumulative impacts with respect to GHG emissions.	None Required	Potentially Significant	Significant and Unavoidable
SECTION 3.8—HAZARDS AND HAZARDOUS MATERIALS			
Impact 3.8-1: Development facilitated by the Project has the potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	None Required	Less than Significant	Less than Significant
Impact 3.8-2: Development facilitated by the Project has the potential to 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.	None Required	Less than Significant	Less than Significant
Impact 3.8-3: Development facilitated by the Project has the potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	None Required	Less than Significant	Less than Significant
Impact 3.8-4: Development facilitated by the Project has the potential to 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, create a significant hazard to the public or the environment.	None Required	Less than Significant	Less than Significant
Impact 3.8-5: Development facilitated by the Project would not be 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, and would not result in a safety hazard or excessive noise for people residing or working in the project area.	None Required	Less than Significant	Less than Significant

IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE BEFORE MITIGATION	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Impact 3.8-6: Development facilitated by the Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	None Required	Less than Significant	Less than Significant
Impact 3.8-7: Development facilitated by the Project has the potential to expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.	None Required	Less than Significant	Less than Significant
Impact 3.8-7: Development facilitated by the Project, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to hazards and hazardous materials.	None Required	Less than Significant	Less than Significant
SECTION 3.9—HYDROLOGY AND WATER QUALITY			
Impact 3.9-1: Development facilitated by the Project has the potential to violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.	None Required	Less than Significant	Less than Significant
Impact 3.9-2: Development facilitated by the Project would not decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.	None Required	Less than Significant	Less than Significant
Impact 3.9-3: Development facilitated by the Project has the potential to substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: result in substantial erosion or siltation on- or off-site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows.	None Required	Less than Significant	Less than Significant
Impact 3.9-4: Development facilitated by the Project has the potential to risk release of pollutants due to project inundation in a flood hazard, tsunami, or seiche zone.	None Required	Less than Significant	Less than Significant
Impact 3.9-5: Development facilitated by the Project has the potential to conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	None Required	Less than Significant	Less than Significant

IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE BEFORE MITIGATION	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Impact 3.9-6: Development facilitated by the Project, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to hydrology and water quality.	None Required	Less than Significant	Less than Significant
SECTION 3.10—LAND USE			
Impact 3.10-1: Development facilitated by the General Plan would not physically divide an established community.	None Required	Less than Significant	Less than Significant
Impact 3.10-2: Implementation of the General Plan would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.	None Required	Less than Significant	Less than Significant
Impact 3.10-3: Development facilitated by the General Plan, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to the potential to physically divide an established community.	None Required	Less than Significant, less than cumulatively considerable	Less than Significant, less than cumulatively considerable
Impact 3.10-4: Development facilitated by the General Plan, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.	None Required	Less than Significant, less than cumulatively considerable	Less than Significant, less than cumulatively considerable
SECTION 3.11—NOISE			
Impact 3.11-1: General Plan 2040 implementation may result in exposure to significant traffic noise sources.	None Required	Less than Significant	Less than Significant
Impact 3.11-2: Development facilitated by the General Plan 2040 would not generate excessive groundborne vibration or groundborne noise levels.	**MM 3.11-2: Construction Vibration: .** *Prior to issuance of grading permits for any project that is located within 150 feet of a historic structure that is depicted in Figure DT-3 of the General Plan and, if construction activities will require either: (1) pile driving within 150 feet; or (2) utilization of mobile construction*	Potentially Significant	Less than Significant

IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE BEFORE MITIGATION	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	equipment within 50 feet of the historic structure, the property owner/developer shall retain an acoustical engineer to prepare a vibration plan for Town review and approval. The vibration plan shall determine the vibration levels created by construction activities at the historic structure. If necessary, the vibration plan shall require the developer to implement specific measures to reduce the vibration levels to meet Caltrans thresholds.		
Impact 3.11-3: Implementation of the General Plan 2040 would not result in cumulatively substantial increases in ambient noise levels and vibration in excess of standards established by the local general plan, noise ordinance, or applicable standards of other agencies.	None Required	Less than Significant	Less than Significant
SECTION 3.12—POPULATION AND HOUSING			
Impact 3.12-1: Development facilitated by the General Plan would not induce substantial unplanned population growth either directly or indirectly (for example, through extension of roads or other infrastructure) and would not displace a substantial number of people requiring the construction of new housing.	None Required	No Impact	No Impact
Impact 3.12-2: Development facilitated by the General Plan would not cumulatively induce substantial unplanned population growth either directly or indirectly and would not cumulatively displace a substantial number of people requiring the construction of new housing.	None Required	No Impact	No Impact

IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE BEFORE MITIGATION	LEVEL OF SIGNIFICANCE AFTER MITIGATION
SECTION 3.13—PUBLIC SERVICES AND RECREATION			
Impact 3.13-1: Development facilitated by the General Plan would not result in the provision of or need for new or physically altered fire protection facilities, police protection facilities, school facilities, and library facilities, the construction or operation of which could cause significant environmental impacts.	None Required	Less than Significant	Less than Significant
Impact 3.13-2: Implementation of the General Plan would not increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur, or be accelerated.	None Required	Less than Significant	Less than Significant
Impact 3.13-3: Implementation of the General Plan would include or require the construction or expansion of parks and other recreational facilities, which might have an adverse physical effect on the environment.	None Required	Less than Significant	Less than Significant
Impact 3.13-4: Development facilitated by the General Plan, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to fire protection facilities, police protection facilities, school facilities, library facilities, parks, and recreational facilities.	None Required	Less than Significant	Less than Significant
SECTION 3.14—TRANSPORTATION			
Impact 3.14-1: Implementation of General Plan would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.	None Required	No Impact	No Impact
Impact 3.14-2: Development facilitated by the General Plan would not conflict or be inconsistent with CEQA Guidelines Section 15064.3 subdivision (b).	**MM 3.14-2:** *When the Town receives an application for a project subject to CEQA, it shall apply the "Screening Thresholds for Land Use Projects" set forth in OPR's Technical Advisory on Evaluating Transportation Impacts in CEQA. If the project would exceed the screening thresholds, or other evidence demonstrates a potentially*	Potentially Significant	Significant and Unavoidable

IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE BEFORE MITIGATION	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	significant VMT impact, the Town shall require the applicant to prepare a quantitative, project-level VMT analysis. If the analysis shows that the project would exceed the applicable numeric threshold of significance, the Town shall require the applicant to prepare and submit a VMT Reduction Plan for Town review and approval. The VMT Reduction Plan shall incorporate mandatory measures sufficient to reduce project VMT below the applicable numeric threshold of significance. The VMT Reduction Plan may include, without limitation, a TDM program; pedestrian, bicycle, or transit network improvements; car sharing or ride sharing programs; transit subsidies; telecommuting or alternative work schedules; and/or any other measures sufficient to reduce VMT below the applicable threshold.		
Impact 3.14-3: Development facilitated by the General Plan would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	None Required	Less than Significant	Less than Significant
Impact 3.14-4: Implementation of the General Plan would not result in inadequate emergency access.	None Required	Less than Significant	Less than Significant

IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE BEFORE MITIGATION	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Impact 3.14-5: Development facilitated by the General Plan, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to transportation.	None Required	Significant and Unavoidable	Significant and unavoidable and cumulatively considerable.
SECTION 3.15—UTILITIES AND SERVICE SYSTEMS			
Impact 13.15-1: General Plan 2040 implementation may result in insufficient water supplies available to serve the Town and reasonably foreseeable future development during normal, dry and multiple dry years.	None Required	Potentially Significant	Significant and Unavoidable
Impact 13.15-2: General Plan 2040 implementation may require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	None Required	Potentially Significant	Significant and Unavoidable
Impact 13.15-3: Project and Cumulative Need for System Infrastructure.	None Required	Potentially Significant	Significant and unavoidable and cumulatively considerable
Impact 13.15-4: General Plan 2040 implementation along with cumulative development could result in insufficient water supplies available to serve the Town and reasonably foreseeable future development during normal, dry and multiple dry years.	None Required	Potentially Significant	Significant and unavoidable and cumulatively considerable
Impact 13.15-5: General Plan 2040 implementation would not have the potential to result in a determination by the wastewater treatment provider which serves or may serve the Project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	None Required	Potentially Significant	Significant and Unavoidable
Impact 13.15-6: General Plan 2040 implementation may require or result in the relocation or construction of new or expanded wastewater facilities, the construction or relocation of which could cause significant environmental effects.	None Required	Potentially Significant	Significant and Unavoidable
Impact 13.15-7: Project and Cumulative Need for System Infrastructure and Facilities.	None Required	Potentially Significant	Significant and unavoidable and cumulatively considerable
Impact 13.15-8: General Plan 2040 implementation along with cumulative development could result in insufficient wastewater treatment capacities available to serve the Town and reasonably foreseeable future development.	None Required	Potentially Significant	Significant and unavoidable and cumulatively considerable

IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE BEFORE MITIGATION	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Impact 13.15-9: General Plan 2040 implementation would not require or result in the relocation or construction of new or expanded storm water drainage facilities, the construction or relocation of which could cause significant environmental effects.	None Required	Less than Significant	Less than Significant
Impact 13.15-10: Project and Cumulative Need for System Infrastructure and facilities including relocation or construction of new or expanded storm water drainage facilities.	None Required	Less than Significant	Less than significant and less than cumulatively considerable.
Impact 13.15-11: General Plan 2040 implementation would comply with federal, state, and local management and reduction statutes and regulations related to solid waste, would not generate solid waste in excess of State or local standards or otherwise impair the attainment of solid waste reduction goals, and would not exceed of the capacity of local infrastructure.	None Required	Less than Significant	Less than Significant
Impact 13.15-12: Under cumulative conditions the Project would not generate solid waste in excess of State or local standards or otherwise impair the attainment of solid waste reduction goals, and would not exceed of the capacity of local infrastructure.	None Required	Less than Significant	Less than significant and less than cumulatively considerable.
SECTION 3.16—WILDFIRE			
Impact 3.16-1: Development allowed under the General Plan 2040 in or near State responsibility areas or lands classified as very high fire hazard severity zones would not substantially impair an adopted emergency response plan or emergency evacuation plan.	None Required	Less than Significant	Less than Significant
Impact 3.16-2: Development under the General Plan 2040 in areas located in or near State responsibility areas or lands classified as very high fire hazard severity zones would not, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of wildfire.	None Required	Less than Significant	Less than Significant
Impact 3.16-3: Implementation of the General Plan 2040 in areas located in or near State responsibility areas or lands classified as very high fire hazard severity zones may require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities); however, the installation and maintenance of such infrastructure would not substantially exacerbate fire risk or result in significant temporary or ongoing impacts to the environment.	None Required	Less than Significant	Less than Significant
Impact 3.16-4: Development facilitated by the General Plan 2040 in areas located in or near State responsibility areas or lands classified as very high fire hazard severity zones	None Required	Less than Significant	Less than Significant

IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE BEFORE MITIGATION	LEVEL OF SIGNIFICANCE AFTER MITIGATION
could substantially expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.			
Impact 3.16-5: Development facilitated by the General Plan 2040, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to wildfire.	None Required	Less than Significant	Less than Significant

1.0 INTRODUCTION

This Draft Environmental Impact Report (Draft EIR) was prepared in accordance with and in fulfillment of the California Environmental Quality Act (CEQA) and the CEQA Guidelines. As described in CEQA Guidelines Section 15121(a), an EIR is a public information document that assesses the potentially significant environmental impacts of a project. CEQA requires that an EIR be prepared by the agency with primary responsibility over the approval of a project (the lead agency). The Town of Tiburon (Town) is the lead agency for the proposed Tiburon General Plan 2040 (General Plan 2040 or Project). Public agencies are charged with the duty to consider and minimize environmental impacts of proposed development where feasible and have the obligation to balance economic, environmental, and social factors.

The General Plan 2040 will be Tiburon's roadmap for the future. It describes the community's long-term vision and sets forth goals, policies, and programs to manage growth, direct land use decision making, and preserve the environment and character of the community. The State of California requires every town, city, and county to have a general plan to guide future development, preserve open space, conserve resources, and provide for public health, safety, and welfare. Local ordinances and other plans must be generally consistent with the general plan and applicable policies and programs.

Through an extensive public outreach effort, the Town engaged the public in gathering input that would ensure that Tiburon retains its unique character well into the future. Community members provided their input and feedback through a series of public workshops, meetings, and surveys. Throughout the General Plan update process, the Town's boards and commissions reviewed existing General Plan policies and programs related to their area of expertise, considered public input, and provided recommendations.

The General Plan 2040 has been developed to be largely self-mitigating in that the goals, policies, and programs in the General Plan 2040 recognize the importance of natural environment and are designed to protect the environment and environmental resources. In certain instances, mitigation is included to reinforce and enhance the protections identified in the policies and programs. Even with the implementation of General Plan 2040 policies and identified EIR mitigation measures, there would still be significant and unavoidable impacts for Air Quality, Greenhouse Gas Emissions, Transportation, and Utilities and Service Systems.

1.1 PURPOSE OF THE ENVIRONMENTAL IMPACT REPORT

The Town, as lead agency, determined that the General Plan 2040 is a "project" under CEQA. CEQA requires the preparation of an EIR prior to approving any project that may have a significant impact on the environment. For the purposes of CEQA, the term "project" refers to the whole of an action which has the potential for resulting in a direct physical change or

a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378(a)).

This Draft EIR has been prepared according to CEQA requirements to evaluate the potential environmental impacts associated with the implementation of the General Plan 2040. The purpose of this Draft EIR is to inform public agency decision-makers, representatives of affected and responsible agencies, the public, and other interested parties of the potential environmental effects that may result from continued implementation of the Town's policies and the General Plan 2040.

This Draft EIR also discusses alternatives to the General Plan 2040 and, when appropriate, proposes mitigation measures that would offset, minimize, or otherwise avoid potentially significant environmental impacts. This Draft EIR is intended to provide decision-makers and the public with information that enables consideration of the environmental consequences of the General Plan 2040, and has been prepared in accordance with CEQA (California Public Resources Code [PRC] Section 21000 *et seq.*) and the CEQA Guidelines (California Code of Regulations [CCR] Title 14, Division 6, Chapter 3).

1.2 TYPE OF ENVIRONMENTAL IMPACT REPORT

The CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This Draft EIR has been prepared as a Program EIR pursuant to CEQA Guidelines Section 15168. Section 15168 states:

> A Program EIR is an EIR that may be prepared on a series of actions that can be characterized as one large project and are related either:
>
> 1. Geographically,
> 2. As logical parts in the chain of contemplated actions,
> 3. In connection with issuance of rules, regulations, plans or other general criteria to govern the conduct of a continuing program, or
> 4. As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

A program-level analysis considers the broad environmental effects of the Project. This Draft EIR will be used to evaluate subsequent projects and activities under the General Plan 2040.

This Draft EIR is intended to provide the information and environmental analysis necessary to assist public agency decision-makers in considering approval of the Project, but not to the level of detail to consider approval of subsequent development projects that may occur after adoption of the General Plan 2040.

Additional environmental review under CEQA may be required for subsequent projects and would be generally based on the subsequent project's consistency with the General Plan and

the analysis in this Draft EIR, as required under CEQA. It may also be determined that some future projects or infrastructure improvements may be exempt from environmental review. When individual subsequent projects or activities are proposed under the General Plan, the lead agency that would approve and/or implement the individual project would examine the projects or activities to determine whether their effects were adequately analyzed in this Draft EIR (CEQA Guidelines Section 15168). If the projects or activities would have no effects beyond those disclosed in this Draft EIR, no further CEQA compliance would be required.

1.3 INTENDED USES OF THE ENVIRONMENTAL IMPACT REPORT

This Draft EIR is intended to evaluate the environmental impacts of the adoption and implementation of the General Plan. The document will serve as a source of information in the review of subsequent planning and development proposals, including subsequent environmental review of development projects, for infrastructure provision and individual development proposals, and for public facilities to serve new development.

1.4 AGENCIES AND APPROVALS

The term "Responsible Agency" includes all public agencies other than the lead agency that have discretionary approval power over the Project or an aspect of the Project (CEQA Guidelines Section 15381). For the purpose of CEQA, a "Trustee" agency has jurisdiction by law over natural resources that are held in trust for the people of the State of California (CEQA Guidelines Section 15386). While no Responsible Agencies or Trustee Agencies are responsible for approvals associated with adoption of the General Plan 2040, implementation of future projects may require permits or approvals from Trustee and Responsible Agencies, which may include, but are not limited to, the following:

- California Department of Fish and Wildlife (CDFW)
- California Department of Transportation (Caltrans) District 4
- Golden Gate Bridge, Highway, and Transportation District
- San Francisco Bay Conservation and Development Commission (BCDC)
- San Francisco Bay Regional Water Quality Control Board (RWQCB)
- Marin Local Agency Formation Commission (LAFCo)
- United States Army Corps of Engineers (USACE)
- United States Fish and Wildlife Service (USFWS)

1.5 ENVIRONMENTAL REVIEW PROCESS

The review and certification process for this Draft EIR has involved, or will involve, the general procedural steps described below.

1.5.1 NOTICE OF PREPARATION

In accordance with CEQA Guidelines Section 15082, the Town circulated a Notice of Preparation (NOP) of an EIR for the General Plan on October 21, 2022, to Trustee and Responsible Agencies, the State Clearinghouse (SCH), and the public. The 30-day public review period for the NOP ended on November 28, 2022. A scoping meeting was held on October 27, 2022. The NOP and all comment letters received on the NOP are presented in Appendix A.

The Town received seven comment letters on the NOP. Comments on the NOP included the following topics and issue areas:

- Biological resources concerns, including potential temporary or permanent impacts to sensitive habitats, sensitive species, and aquatic/riparian resources;
- Loss or modification of breeding, nesting, dispersal and foraging habitat, including vegetation removal, alternation of soils and hydrology, and removal of habitat structural features;
- Land use changes that would reduce open space or agricultural land uses and increase residential or other land use involving increased development;
- Concern that the Planning Area is within a tsunami hazard area, and potential effects to development should a tsunami occur;
- Potential release of hazardous waste/substances or toxic air emissions during construction or as a permanent condition, and identification of remediation steps to be taken, if any;
- The proper handling and storage of hazardous materials including contaminated soils, lead-based paint, mercury, asbestos containing materials, and polychlorinated biphenyl caulk;
- The number and capacity of identified emergency evacuation routes, possible traffic chokepoints, and potential exacerbation of hazards during a natural disaster;
- Traffic congestion on main arterials and evacuation routes such that it could impede emergency vehicle access within the Town;
- Sea level rise as a result of climate change, and the potential for downtown properties to be affected;
- Increased traffic issues including congestion and parking;
- Concerns about the provision of parking for both residences, businesses, and tourists;
- Concerns about secondary effects of reducing or eliminating retail square footage downtown in favor of high-density residential uses;
- Ability for service providers to continue providing adequate services and infrastructure to the growing Town;
- Availability of adequate affordable transportation options particularly as it relates to employment commute patterns;
- Risk of wildfire, particularly in urban-wildland interface zones;

- Whether possible increased building heights, especially in Downtown, could affect aesthetic resources;
- Concerns about proposed locations of high-density residential uses in the Town;
- Comments regarding population increases anticipated in the Town;
- Questions about whether the proposed Housing Element, a part of the proposed General Plan, is also being evaluated in the EIR;
- Potential short-term and long-term impacts to businesses including economic losses, business relocations, business closures, and inconvenience; and
- Requests to conduct California Historical Research Information System (CHRIS) Center record search for archaeological resources, contact the Native American Heritage Commission (NAHC) for a Sacred Lands File search, engage in appropriate Native American Tribal consultation in accordance with Assembly Bill 52 (AB 52) and Senate Bill 18 (SB 18), and appropriately mitigate potential impacts to archaeological or Tribal Cultural Resources.

All of the issues raised in the comment letters on the NOP are addressed in the Draft EIR, with one exception. CEQA Guidelines Section 15131(a) states, "Economic or social effects of a project shall not be treated as significant effects on the environment. An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic or social changes. The intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect. The focus of the analysis shall be on the physical changes." Concerns such as a business's potential loss of clients during construction on a nearby parcel, for example, would not be analyzed unless there is a direct physical change to the environment. Issues such as general inconvenience of construction activities are not addressed. However, direct physical effects of construction activities such as the creation of noise, air emissions, and temporary road detours are discussed in the Draft EIR. Potential effects to individual parcels or businesses are not discussed as it would be speculative to identify exactly which, and to what level, physical effects would occur.

1.5.2 PUBLIC NOTICE/PUBLIC REVIEW

Upon publication of the Draft EIR for the General Plan 2040, the Town will file a Notice of Completion (NOC) with the State Clearinghouse of the Governor's Office of Planning and Research to begin the public review period (PRC Section 21161).

Concurrent with the NOC, the Town will provide a public notice of availability for the Draft EIR, and invite comment from the general public, agencies, organizations, and other interested parties. Consistent with CEQA requirements, the review period for this Draft EIR will be no less than 45 days. Public comment on the Draft EIR will be accepted in written form. All comments or questions regarding the Draft EIR should be addressed to:

Dina Tasini, Director of Community Development
Town of Tiburon
1505 Tiburon Boulevard
Tiburon, CA 94920
dtasini@townoftiburon.org

The Town will host a public Open House to inform the public about the General Plan 2040 and the Draft EIR. The Open House will be held on April 29, 2023 from 10:00 am to 12:00pm at the Town Hall, Council Chambers, 1505 Tiburon Boulevard, Tiburon. Further, the public may provide comments on the EIR at one or more public hearings before the Planning Commission and/or Town Council. Notice of public hearings will be posted on the Town's website, in the local newspaper, and through direct mailing to interested parties that have requested notification.

1.5.3 RESPONSE TO COMMENTS ON THE DRAFT EIR/FINAL EIR

Following the public review period on the Draft EIR, a Final EIR will be prepared. The Final EIR will respond to written comments received during the public review period. The Final EIR may also include corrections, clarification, and additional explanatory information that is being added to the Draft EIR.

1.5.4 CERTIFICATION OF THE EIR/PROJECT CONSIDERATION

The Town Council is the decision-making body on the Project and Draft EIR. If the Town Council finds that the Final EIR is "adequate and complete," they may certify the Final EIR in accordance with CEQA Guidelines. As set forth by CEQA Guidelines Section 15151, the standards of adequacy require an EIR to provide a sufficient degree of analysis to allow decisions to be made regarding the Project that take account of environmental consequences.

Upon review and consideration of the Final EIR, the Town Council may take action to approve, revise, or reject the General Plan 2040. A decision to approve the Project, for which this Draft EIR identifies significant environmental effects, must be accompanied by written findings in accordance with CEQA Guidelines Sections 15091 and 15093. A Mitigation Monitoring and Reporting Program (MMRP) would also need to be adopted in accordance with CEQA Guidelines Section 15097. The MMRP will list all mitigation measures that have been incorporated into or imposed upon the Project to reduce or avoid significant effects on the environment. The MMRP will be designed to ensure that these measures are carried out during Project implementation, in a manner that is consistent with the Final EIR.

1.6 ORGANIZATION AND SCOPE

CEQA Guidelines Sections 15122 through 15132 identify the content requirements for Draft and Final EIRs. An EIR must include a description of the environmental setting, an environmental impact analysis, mitigation measures, alternatives, significant irreversible environmental changes, growth-inducing impacts, cumulative impacts, and alternatives to the Project. The environmental issues addressed in the Draft EIR were established through review of environmental and planning documentation developed for the General Plan 2040, environmental and planning documentation prepared for recent projects located within the Town, and responses to the NOP and public scoping meeting comments.

This Draft EIR is organized in the following manner:

EXECUTIVE SUMMARY

The Executive Summary summarizes the characteristics of the General Plan 2040, known areas of controversy and issues to be resolved, and provides a concise summary matrix of the General Plan 2040's environmental impacts and mitigation measures consistent with CEQA Guidelines Section 15123.

CHAPTER 1.0—INTRODUCTION

This chapter briefly describes the General Plan 2040, the purpose of the environmental evaluation, identifies the lead, trustee, and responsible agencies, summarizes the process associated with preparation and certification of an EIR, identifies the scope and organization of the Draft EIR, and summarizes comments received on the NOP.

CHAPTER 2.0—PROJECT DESCRIPTION

This chapter provides a detailed description of the General Plan 2040, including the location, intended objectives, background information, the physical and technical characteristics, including the decisions subject to CEQA Guidelines, subsequent projects and activities, and a list of related agency action requirements.

CHAPTER 3.0—ENVIRONMENTAL IMPACT ANALYSIS

This chapter contains the analysis of environmental topic areas as identified below. Each section contains a description of the existing environment as it pertains to the topical area as well as a description of the regulatory environment that may be applicable to the General Plan. Each section also identifies thresholds of significance by which impacts are determined, a description of Project-related impacts and cumulative impacts associated with the environmental topic, identification of appropriate mitigation measures, and a conclusion as to the significance of each impact.

The following environmental topics are addressed in this chapter:

3.1 Aesthetics
3.2 Air Quality
3.3 Biological Resources
3.4 Cultural and Tribal Cultural Resources
3.5 Energy
3.6 Geology, Soils, and Seismicity
3.7 Greenhouse Gas Emissions
3.8 Hazards and Hazardous Materials
3.9 Hydrology and Water Quality
3.10 Land Use and Planning
3.11 Noise
3.12 Population, Housing, and Employment
3.13 Public Services and Recreation
3.14 Transportation
3.15 Utilities and Service Systems
3.16 Wildfire

CHAPTER 4.0—ALTERNATIVES TO THE PROJECT

This chapter provides a comparative analysis of the General Plan 2040 and the selected alternatives, including the mandatory "No Project" alternative. CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to the General Plan 2040, which could feasibly attain the basic objectives of the Project and avoid and/or lessen any significant environmental effects of the Project.

CHAPTER 5.0—OTHER CEQA CONSIDERATIONS

This chapter evaluates and describes the following CEQA required topics: impacts considered less than significant, significant and irreversible impacts, growth-inducing effects, cumulative impacts, and significant and unavoidable environmental effects.

CHAPTER 6.0—EFFECTS FOUND NOT TO BE SIGNIFICANT

This chapter would analyze potential impacts resulting from conversion of agriculture and forest lands to non-agriculture and non-forest uses, and loss of any known significant mineral occurrences. Given the location of the Town in the urbanized context of the San Francisco Bay Area and the lack of mineral resources in the area, these resources are anticipated to not be major considerations for the General Plan. 2040 Existing conditions and regulations will be summarized.

CHAPTER 7.0—PERSONS AND ORGANIZATIONS CONSULTED—LIST OF PREPARERS

This chapter lists all authors and agencies that assisted in the preparation of the Draft EIR, by name, title, and company or agency affiliation.

APPENDICES

This chapter includes the NOP and other procedural documents pertinent to the Draft EIR, as well as technical material prepared to support the analysis.

2.0 PROJECT DESCRIPTION

2.1 BACKGROUND AND OVERVIEW

2.1.1 STATE GENERAL PLAN LAW

California Government Code Section 65300 *et seq*. requires all counties and cities to prepare and maintain a general plan for the long-term growth, development, and management of the land within the jurisdiction's planning boundaries. The general plan acts as a "constitution" for development and is the jurisdiction's lead legal document in relation to growth, development, and resource management issues. Development regulations (e.g., zoning and subdivision standards) are required by law to be consistent with the general plan.

General plans must address a broad range of topics, including, at a minimum, the following mandatory elements: land use, circulation, housing, conservation, open space, noise, and safety. General plans must also address the topics of environmental justice and climate change and resiliency planning, either as separate elements or as part of other required elements. At the discretion of each jurisdiction, the general plan may combine these elements and may add optional elements relevant to the physical features of the jurisdiction.

The California Government Code also requires that a general plan be comprehensive, internally consistent, and plan for the long term. The general plan should be clearly written, easy to administer, and available to all those concerned with the community's development.

State planning and zoning law (California Government Code Section 65000 *et seq*.) establishes that zoning ordinances are required to be consistent with the general plan and any applicable specific plans, area plans, master plans, and other related planning documents. When amendments to the general plan are made, corresponding changes in the zoning ordinance may be required within a reasonable time to ensure consistency between the revised land use designations in the general plan (if any) and the permitted uses or development standards of the zoning ordinance (Gov. Code Section 65860(c)).

2.1.2 GENERAL PLAN 2040 PROCESS

The Town's current General Plan (2020 General Plan) was last comprehensively updated in 2005 with adoption of the 2020 General Plan. This document sought to further guide the Town's physical development while recognizing the Town's scenic location, small town character, and vast network of open space. Since that time, the 2020 General Plan has been periodically amended, including updates to the Circulation Element in 2016 and adoption of the updated Housing Element in 2014. Land uses in the Town of Tiburon have been developed based on the Land Use Map, goals, and policies established by the 2020 General Plan.

The proposed project (2040 General Plan or Project) is the update of the 2020 General Plan.

Stakeholder Interviews

From November 2020 to January 2021, the 2040 General Plan team conducted 12 stakeholder interviews and 3 focus groups with community organizations, homeowners' associations, nonprofits and public agencies to understand key issues and opportunities to be explored further in the 2040 General Plan. The following groups contributed their feedback in on-line discussions:

- Major Downtown property owners
- Tiburon Peninsula Chamber of Commerce
- Downtown merchants
- Homeowners associations
- Sierra Club
- Marin Conservation League
- Marin Audubon
- Belvedere/Tiburon Recreation District
- Belvedere Tiburon Library/Library Foundation
- Reed Union School District
- Golden Gate Bridge and Transportation District
- City of Belvedere (Planning and Public Works)
- Tiburon Fire Protection Agency
- Marin Transit District
- Marin County Public Works Department

Website Survey

In January 2021 the Create Tiburon 2040 website was launched, providing a platform for a series of community surveys on specific topics. The first survey, "Setting Priorities," was advertised through a variety of means: a mailer introducing the General Plan 2040 process sent to all households and businesses; an article in Tiburon Talk; Next Door; and a banner at the Blackie's Pasture sign. As of the close of the survey on February 22, 2021, 448 participants had taken the Setting Priorities survey.

Workshops, Presentations, and Surveys

In an effort to collect input from the community regarding a number of targeted topics, the Town conducted workshops, made presentations, and launched polls.

Workshops and Presentations

- Adapting to Sea Level Rise Workshop and Presentation, March 2, 2021
- Safety, Parks, and Open Space Workshop and Presentation, March 30, 2021
- Downtown Workshop and Presentation, April 27, 2021
- Housing I Workshop and Presentation, November 9, 2021
- Housing II Workshop and Presentation, February 22, 2022
- Mobility & Noise Workshop and Presentation, March 22, 2022

Web Surveys

- Adapting to Sea Level Rise web survey, survey closed on March 29, 2021
- Safety, Parks, and Open Space web survey, survey closed on April 26, 2021
- Downtown web survey, survey closed on June 7, 2021
- Housing I web survey, survey closed on January 10, 2022
- Sustainability web survey, survey closed on February 24, 2022
- Housing II web survey, survey closed April 20, 2022
- Mobility & Noise web survey, survey closed on May 6, 2022

Town Council and Planning Commission Briefings

Town staff and consultants briefed the Town Council and Planning Commission throughout the planning process.

- Community Engagement and Guiding Principles Presentation, Town Council, March 3, 2021
- Presentation to the Parks, Open Space, and Trails Commission, March 16, 2021
- Safety and Resilience Presentation, Planning Commission, April 28, 2021
- Open Space, Conservation, Parks and Recreation Presentation, Planning Commission, June 9, 2021
- Downtown Presentation, Planning Commission, June 23, 2021
- Downtown Presentation (second one), Planning Commission, August 26, 2021
- Mid-Course Review Presentation, Town Council, January 19, 2022
- Housing Opportunity Sites and Rezoning Proposal Presentation, Planning Commission, March 23, 2022

- Housing Opportunity Sites and Rezoning Proposal Presentation, Town Council, April 20, 2022
- Housing Opportunity Site (Mar West) Presentation, Town Council, June 15, 2022
- Draft Housing Element Presentations, Town Council, August 3 and 31, 2022
- Response to California Department of Community Development's Comments on the Draft Housing Element Presentations, January 18 and 25, 2023

Scoping Meeting

The Town circulated a NOP of an EIR for the General Plan 2040 on October 21, 2022 to Trustee and Responsible Agencies, the State Clearinghouse, and the public. A scoping meeting was held over Zoom on October 27, 2022 to provide an opportunity for agency representatives and the public to assist the Town in determining the scope and content of the EIR. The NOP comment period closed on November 28, 2022.

2.2 PROJECT LOCATION

The Town is located on a peninsula which extends from southeastern Marin County into San Francisco Bay, approximately seven miles north of the City of San Francisco. Tiburon is located among the cities which line San Francisco Bay and make up the greater Bay Area. Primary access to Tiburon is by U.S. Highway 101, which connects to San Francisco to the south and San Rafael and Sonoma County to the north (see Figure 2.0-1 and Figure 2.0-2). Tiburon is also served by private ferry service to and from San Francisco, Sausalito, and Angel Island.

There are three key boundary lines addressed by the Project, which make up the study area for the General Plan 2040 EIR. These include the Town Limits, the Sphere of Influence (SOI), and the Planning Area.

Town Limits: Includes the area within the Town's corporate boundary, over which the Town exercises land use authority and provides public services.

Sphere of Influence (SOI): The probable physical boundary and service area of the Town, as adopted by the Local Agency Formation Commission (LAFCO). An SOI may include both incorporated and unincorporated areas within which a city, town, or special district will have primary responsibility for the provision of public facilities and services.

Planning Area: For the purposes of the General Plan 2040, the Planning Area is the geographic area for which the General Plan 2040 provides a framework for long-term plans for growth, resource conservation, and service provision. State law requires the General Plan 2040 to include all territory within Tiburon's incorporated area as well as "any land outside its boundaries which in the planning agency's judgment bears relation to its planning" (California Government Code Section 65300). The Planning

Area for the General Plan 2040 is made up of the incorporated Town of Tiburon, the unincorporated properties which are located along Paradise Drive, and the unincorporated properties located north of Tiburon Boulevard between the Town's western corporate limits and U.S. Highway 101.

2.3 PROJECT OBJECTIVES

The Tiburon General Plan 2040 Update is intended to reflect the desires and vision of Tiburon's residents, businesses, Planning Commission, Town Council, and other decision-makers for the future development and operation of Tiburon.

The following objectives are identified for the General Plan 2040:

Sense of Place. Preserve and enhance Tiburon's quality of life and small-town feel by enhancing access to scenic public open spaces and protecting important historic, cultural, and artistic resources that highlight the Town's social and architectural history.

Economic Vitality. Support a local economy, including a vibrant Downtown, that provides a wide range of services and amenities to serve the local population, while accommodating tourism.

Balanced Growth. Focus new development in Downtown and in areas adjacent to Tiburon Boulevard while preserving existing neighborhoods and open space.

Mobility. Provide a balanced transportation system that accommodates automobiles while enhancing transportation connections for pedestrians, bicycles, transit services, and new technology.

Healthy Lifestyles and Community Connections. Promote physical health and wellness by improving outdoor recreational facilities and public gathering places, trail connections and signage, and by providing quality recreation programs to residents of all ages, abilities, and economic means.

Equity. Promote social equity and inclusiveness in the creation of public policies, and ensure the just and equitable provision of public facilities and services.

Housing. Protect and enhance residential neighborhoods' quality of life, and support the development of more diverse and affordable housing opportunities.

Safety. Provide a safe community through public safety services, resilient infrastructure, and public preparedness.

Environmental Resources. Protect and enhance open spaces and natural resources that contribute to Tiburon's unique identify and scenic beauty.

Climate Change and Resilience. Reduce greenhouse gas emissions and increase community resilience by preparing for the effects of climate change, including increased wildfires and sea level rise.

2.4 DESCRIPTION OF GENERAL PLAN 2040 PROJECT

The Town is preparing a comprehensive update to its existing General Plan, which was prepared in 2005 (with updates to the Circulation Element in 2016 and adoption of the updated Housing Element in 2014). The General Plan 2040 will guide the Town's development and conservation of its resources. The Plan is intended to be an expression of the community's vision for the Town and Planning Area and constitutes the policy and regulatory framework by which future development projects will be reviewed and public improvements will be implemented. The Town will implement the Plan by requiring development, infrastructure improvements, and other projects to be consistent with its policies and by implementing the actions included in the Plan. The key components of the General Plan 2040 will include broad goals for the future of Tiburon, and specific policies and actions that will help implement the stated goals.

State law requires the Town to adopt a comprehensive, long-term general plan for the physical development of its planning area. The Plan must include land use, circulation, housing, conservation, open space, noise, and safety elements, as specified in Government Code Section 65302, to the extent that the issues identified by State law exist in the Town's planning area. Additional elements that relate to the physical development of the Town may also be addressed in the Plan. The degree of specificity and level of detail of the discussion of each Plan element need only reflect local conditions and circumstances. The Plan has been prepared to address the requirements of State law and the relevant items addressed in Government Code Section 65300 et seq.

This Draft EIR analyzes potential impacts to the environment associated with implementation and buildout of the General Plan 2040, which includes future development projects, infrastructure improvements, and the implementation of policies and actions included in the General Plan 2040. These General Plan 2040 components are described in greater detail below.

2.4.1 GENERAL PLAN 2040 ELEMENTS

The General Plan 2040 will include a comprehensive set of goals, policies, and actions (implementation measures), as well as a revised Land Use Map (see Figure 2.0-3 and Figure 2.0-4). The State requires that a general plan contain seven mandatory elements: Land Use, Circulation, Open Space, Conservation, Safety, Noise, and Housing, as well as address issues related to climate adaptation and resiliency planning and environmental justice, either as separate Elements or as components of the required Element framework. The General Plan 2040 is organized into eleven chapters, and include discussions of the State-mandated elements:

- **Land Use** describes land use in Tiburon and how and where new development will occur.

- **Downtown** describes the Downtown's geography, history, built character, circulation patterns, and role as a commercial, cultural, and recreational destination.
- **Housing** describes the need for housing, especially housing affordable to lower and moderate-income households, and sites available for housing.
- **Diversity, Equity + Inclusion** addresses environmental justice and how the Town will build a more diverse, equitable and inclusive community.
- **Mobility** provides an overview of the circulation network and traffic operations, and parking, public transportation, bicycle, and pedestrian facilities.
- **Noise** identifies existing and future noise sources and noise levels in Tiburon.
- **Sustainability** describes concepts of sustainability, provides an overview of climate change impacts, and addresses how the Town will reduce greenhouse gas emissions and become a more sustainable community.
- **Conservation** covers natural communities and ecological resources, watersheds and waterways, water resources, water and air quality, and cultural and historical resources.
- **Open Space, Parks + Recreation** addresses the protection, maintenance and enhancement of Tiburon's open space areas, parks, recreational facilities, and scenic resources.
- **Safety + Resilience** describes environmental and human-caused hazards, including earthquake, flood, sea level rise, and fire, and addresses potential risks to the community.

Table 2-1 shows the relationship of the General Plan 2040 chapters to the State-mandated elements.

2.1 PROJECT DESCRIPTION

The project analyzed in the Draft EIR would update the 2020 General Plan, including goals, objectives, policies, and programs that address the maintenance, preservation, improvement, and development of the Town. Land in Tiburon is classified according to three broad land use categories: residential areas, commercial areas, and community and natural resource areas.

Residential land use designations are applied to areas appropriate for single-family, two-family, multifamily, manufactured home, and accessory dwelling housing options. The Town's residential neighborhoods support a range of lifestyles and household income levels.

Mixed Use and Commercial land use designations are applied to areas appropriate for retail and commercial services to serve residents and visitors and multifamily residential uses mixed in with commercial uses.

TABLE 2-1 LOCATION OF STATE-MANDATED ELEMENTS

STATE-MANDATED ELEMENT	TIBURON GENERAL PLAN 2040 CHAPTER
Land Use	Land Use; Safety + Resilience
Circulation	Mobility
Open Space	Open Space, Parks + Recreation
Conservation	Conservation
Safety	Safety + Resilience
Noise	Noise
Housing	Housing
Environmental Justice[1]	Diversity, Equity + Inclusion

NOTE:
1. An environmental justice element is required if a local jurisdiction has a disadvantaged community as defined by state law. Although Tiburon does not contain any such disadvantaged communities, environmental justice policies and programs are included in the General Plan 2040.

SOURCE: Town of Tiburon, 2023.

Community and Natural Resource land use designations apply to open space, parks, and submerged and partially submerged lands. Natural areas, such as the woodlands, grasslands, and waterways, offer opportunities for preservation and conservation. Public facilities provide opportunities for social and community interaction and the provision of public utilities and services.

Table 2-2 identifies acreages for each land use designation in the Land Use Map. The greatest amount of land within the Tiburon town limits, excluding submerged and partially submerged land, is designated for residential use, encompassing nearly 51 percent of Tiburon's land area. The second largest amount of land is designated for community and natural resource use, including 743 acres for Angel Island (designated Public/Quasi Public) and 473 acres for additional open space and parks. Commercial and mixed-use areas comprise 1 percent of Tiburon's land area. Figure LU-1 shows the Town's Land Use Map.

Table 2-3 details the Town's land use designations and describes the general land uses intended for the category and applicable building density and/or intensity. For residential uses, residential density is shown in dwelling units per gross acre. Maximum residential density is calculated based on the gross acreage and then rounded down to the nearest whole number.

TABLE 2-2 GENERAL PLAN 2040 LAND USE ACREAGE

LAND USE DESIGNATION	TOWN	SOI	PLANNING AREA	TOTAL
Residential Designations				
Low Density Residential	3.8	15.1	--	18.9
Planned Development - Residential	139.5	303.8	--	443.3
Medium Low Density Residential	264.5	75.6	--	340.1
Medium Density Residential	545.7	36.7	--	582.3
Medium High Density Residential	247.0	106.4	--	353.4
High Density Residential	51.8	7.9	--	59.7
Very High Density Residential	93.2	9.6	--	102.9
Very High Density-25 Residential	2.7	--	--	2.7
Subtotal Residential	***1,348.2***	***555.10***	***-***	***1,903.2***
Mixed Use And Commercial Designations				
Mixed Use	13.0	--	--	12.6
Main Street	0.1	--	--	0.1
Neighborhood Commercial	9.7	--	--	10.1
Neighborhood Commercial/Affordable Housing Overlay	1.0	--	--	1.0
Village Commercial	5.4	--	--	5.4
Shopping Commercial	--	3.3	--	3.3
Subtotal Mixed Use and Commercial	***29.1***	***3.3***	***-***	
Community And Natural Resource Designations				
Marine	6,781.0	150.3	--	6,931.3
Public/Quasi-Public	810.7	41.4	--	852.0
Open Space	408.1	84.7	308.6	801.5
Parks and Recreation	64.7	12.1	--	76.9
Not zoned/Right-of-way	0.2	--	--	0.2
Subtotal Other	***8,064.7***	***288.5***	***308.6***	***8,661.9***
Grand Total	**9,442.1**	**846.9**	**308.6**	**10,597.5**

SOURCE: Marin County GIS/Assessor Data, Town of Tiburon, De Novo Planning Group, 2022

TABLE 2-3 LAND USE CATEGORIES

LAND USE DESIGNATION		ASSOCIATED ZONING DISTRICT(S)		RESIDENTIAL DENSITY AND BUILDING INTENSITY	DESCRIPTION
Residential Designations					
L	Low Density Residential	RPD	Residential Planned Development	Up to 0.5 dwelling units per acre	The Low Density Residential land use designation is applied to areas suitable for detached single-family homes and related residential uses in low density settings. Other compatible uses may be permitted.
PD-R	Planned Development – Residential	RPD	Residential Planned Development	Up to 1.0 dwelling units per acre – see Table LU-3 for site-specific density limits	The Planned Development – Residential land use designation is applied to areas that are generally undeveloped or underdeveloped and have natural constraints to development such as steep slopes and environmental resources that warrant site-specific limitations on development intensity.
ML	Medium Low Density Residential	RO-1	Residential Open	Up to 1.1 dwelling units per acre	The Medium Low Density Residential land use designation is applied to areas suitable for detached single-family homes and related residential uses in low density settings. Other compatible uses may be permitted.
M	Medium Density Residential	RO-2	Residential Open	Up to 3.0 dwelling units per acre	The Medium Density Residential land use designation is applied to areas suitable for detached single-family homes and related residential uses in low density settings. Other compatible uses may be permitted.
MH	Medium High Density Residential	R-1	Single Family Residential	Up to 4.4 dwelling units per acre	The Medium High Density Residential land use designation is applied to areas suitable for detached single-family homes and related residential uses in low density settings. Other compatible uses may be permitted.
H	High Density Residential	R-2	Two-Family Residential	Up to 11.6 dwelling units per acre	The High Density Residential land use designation is applied to areas suitable for single-family and two-family homes and related residential uses. Other compatible uses may be permitted.
VH	Very High Density Residential	R-3	Multi-Family Residential	Up to 12.4 dwelling units per acre	The Very High Density Residential land use designation is applied to areas suitable for residential uses including multifamily dwellings. Other compatible uses may be permitted.
		RMP	Residential Multiple Planned		

LAND USE DESIGNATION		ASSOCIATED ZONING DISTRICT(S)		RESIDENTIAL DENSITY AND BUILDING INTENSITY	DESCRIPTION
VH-25	Very High Density-25 Residential	R-4	Multi-Family Residential High	Up to 25 dwelling units per acre	The Very High Density-25 Residential land use designation is applied to areas suitable for residential uses including multifamily dwellings at higher densities. Other compatible uses may be permitted.
Mixed-Use And Commercial Designations					
MU	Mixed Use	MU	Mixed Use	Minimum – 30 units per acre Maximum – 35 units per acre Maximum FAR is 1.75	The Mixed-Use land use designation is applied to commercial areas and intended to encourage development of multifamily dwellings in a pedestrian-oriented setting. Other compatible uses may be allowed.
NC	Neighborhood Commercial	NC	Neighborhood Commercial	Up to 10 dwelling units per acre Maximum FAR is 0.37	The Neighborhood Commercial land use designation is applied to neighborhood shopping areas providing for a mix of resident-serving commercial and office uses. Mixed commercial and residential uses may be allowed.
		NC (AHO)	Neighborhood Commercial (Affordable Housing Overlay)	Maximum FAR is 0.31 for commercial uses only Up to 20.7 dwelling units per acre	
VC	Village Commercial	VC	Village Commercial	Maximum FAR is 0.28 Up to 15 dwelling units per acre	The Village Commercial land use designation is applied to the Ark Row portion of the downtown area providing for a wide range of resident and tourist-serving commercial uses. Mixed commercial and residential uses may be allowed.
MS	Main Street	MS	Main Street	Maximum FAR is 1.5 Minimum – up to 20 units per acre Maximum – 25 units per acre	The Main Street land use designation is applied to the downtown area providing for a wide range of resident and tourist-serving commercial uses. Mixed commercial and residential uses may be allowed.
SC	Shopping Commercial	None	None	Maximum FAR is 0.5	The Shopping Commercial is applied to areas suitable for general retail and service uses, automobile-related sales and service uses, and office uses.
Community And Natural Resource Designations					
P	Public/Quasi-Public	P	Public/Quasi-Public	Maximum FAR is 1.0	The Public/Quasi-Public land use designation is applied to areas suitable for public land uses including educational

LAND USE DESIGNATION		ASSOCIATED ZONING DISTRICT(S)		RESIDENTIAL DENSITY AND BUILDING INTENSITY	DESCRIPTION
					facilities, governmental and quasi-public buildings and facilities, and utility facilities
Park	Parks and Recreation	P	Public/Quasi-Public	Maximum FAR is 0.1	The Parks and Recreation land use designation is applied to areas suitable for parks, playgrounds, and other recreational uses, as well as areas preserved for natural conservation.
OS	Open Space	OS	Open Space	Maximum FAR is 0.1	The Open Space land use designation is applied to undeveloped areas for the conservation of natural and scenic resources and for limited passive recreation.
Marine	Marine	M	Marine	Maximum FAR is 0.0	The Marine land use designation is applied to all submerged and partially submerged land areas up to the mean high tide line and for water-related recreational activities and facilities including docks and yacht clubs.

NOTE: In addition to the land use districts identified in the table, the following overlay districts may be applied to any General Plan 2040 land use designation: Flood Hazard Overlay (F) and Historic Protection Overlay (HPO).

SOURCE: De Novo Planning Group, 2022

In addition to building density, State law requires the General Plan 2040 to include a statement of population density for the various land use categories. Population density is determined by multiplying the average household size, as reported by the latest California Department of Finance Population and Housing Estimates for Cities, by the number of dwelling units in a land use category. For example, the average household size in Tiburon was 2.4 persons in 2022. The population density in the Medium Density Residential category is therefore up to 7.2 persons per acre.

For non-residential designations, building intensity is defined by Floor Area Ratio (FAR), which is the ratio between the amount of gross floor area and the gross site area. For example, an FAR of 0.5 would allow a one-story building over half of a site, or a two-story building over one quarter of a site. The Zoning Ordinance contains detailed descriptions of land uses permitted in each designation, as well as development standards that implement the General Plan 2040.

2.1.1 UNDERUTILIZED SITES TO ACCOMMODATE RESIDENTIAL USES

An integral part of the General Plan 2040 is updating the Housing Element, which is required to be updated every eight years and is subject to detailed statutory requirements and mandatory review by the California Department of Housing and Community Development (HCD). According to State law, the Housing Element must:

- Provide goals, policies, quantified objectives, and scheduled programs to preserve, improve and develop housing.
- Identify and analyze existing and projected housing needs for all economic segments of the community.
- Identify "adequate sites" that are zoned and available within the 8-year housing cycle to meet the local government's fair share of regional housing needs at all income levels.
- Affirmatively further fair housing.
- Be reviewed by the State Department of Housing and Community Development (HCD) to determine whether or not the element complies with state law.
- Be internally consistent with other parts of the General Plan 2040.

For the eight-year time frame covered by the Housing Element in the General Plan 2040, HCD has identified the region's housing need as 441,176 units. The total number of housing units assigned by HCD is separated into four income categories that cover housing types for all income levels, from very low-income households to market rate housing.[1] This calculation, known as the Regional Housing Needs Determination (RHND), is based on population projections produced by the California Department of Finance as well as adjustments that incorporate the region's existing housing need. Once the number of needed units were identified for the region, the Association of Bay Area Governments (ABAG) must develop a methodology that calculates the number of housing units assigned to each city and county and distributes each jurisdiction's housing unit allocation among four affordability levels. In 2020, the Town received a draft Regional Housing Needs Allocation (RHNA) of 639 units, approximately eight times the previous 5th housing cycle allocation of 78 units.

The Town subsequently identified specific parcels within the Town that could accommodate more dense housing, focusing on parcels that are vacant or underutilized. Table 2-4 lists those properties that are identified as having capacity for additional residential units to help meet the Town's RHNA allocation (see Figure 2.0-5).

TABLE 2-4 PARCELS FOR INCREASED RESIDENTIAL DENSITY

Site Address	Existing Use	Existing GP	Existing Zoning	Proposed GP	Proposed Zoning	Parcel Size (Acres)	Net Units[1]	Net Non-residen-tial SF[1]
1525 Tiburon Blvd	Parking lot	NC	NC/AHO	MU	MU	0.66	29	0
1535 Tiburon Blvd	Chase Bank	NC/AHO	NC/AHO	MU	MU	0.72	32	-7,866
1601 Tiburon Blvd	BofA (vacant)	NC/AHO	NC/AHO	MU	MU	0.57	25	-3,487

[1] HCD divides the RHND into the following four income categories:
Very Low-income: 0-50% of Area Median Income
Low-income: 50-80% of Area Median Income
Moderate-income: 80-120% of Area Median Income
Above Moderate-income: 120% or more of Area Median Income

Site Address	Existing Use	Existing GP	Existing Zoning	Proposed GP	Proposed Zoning	Parcel Size (Acres)	Net Units[1]	Net Non-residential SF[1]
4 Beach Rd	Parking lot	NC/AHO	NC/AHO	MU	MU	1.07	37	0
1550 Tiburon Blvd	Boardwalk Shopping Ctr.	NC	NC	MU	MU	2.21	77	-17,418
1620 Tiburon Blvd	Comm. bldg.	NC/AHO	NC/AHO	MU	MU	0.27	30	-5,320
1640/50 Tiburon Blvd	Comm. bldg..	NC/AHO	NC/AHO	MU	MU	0.6		-7,396
6 Beach Rd	Post Office, comm. bldgs. and 3 apts.	VC	VC	MU	MU	0.41	46	-28,634
12 Beach Rd						1		
1199 Tiburon Blvd.	Reed School	VH/AHO	RMP/AHO	VH-25	R-4	2.9-acre vacant portion of 7.5-acre site		0
1100 Mar West St	Office bldg.	O	O	MU	MU	0.47	47	0
1110 Mar West St	Office bldg.	O	O	MU	MU	0.3		
1120 Mar West St	Office bldg.	O	O	MU	MU	0.59		
1555 Tiburon Blvd	Parking lot	NC/AHO	NC/AHO	MU	MU	0.86	38	0
1599 Tiburon Blvd	CVS	NC	NC/AHO	MU	MU	1.66	74	-17,079
1600 Tiburon Blvd	Former Shark's Deli	NC/AHO	NC/AHO	MU	MU	0.39	13	1,202
1610 Tiburon Blvd	Commercial Bldg.	NC/AHO	NC/AHO	MU	MU	0.13	4	-3,782
1660 Tiburon Blvd	Commercial Bldg.	NC/AHO	NC/AHO	MU	MU	0.43	15	-8,440
1680 Tiburon Blvd	Commercial Bldg.	NC	NC	MU	MU	0.29	10	-3,892
26 Main St./ 2 Juanita Ln	Theatre, retail shops	VC	VC	MS	MS	0.43	10	-17,930
4576 Paradise	2 residential units	PDR	RPD	VH	R-3	9.575	118	0
ADUs	-	-	-	-	-	-	72	-
Single Family Homes	-	-	-	-	-	-	167	-
Total		**846.9**	**308.6**	**10,597.5**			**916[2]**	**-120,042**

1. This is the number of units analyzed in the EIR and is based on the maximum permitted density for the General Plan 2040 land use designation.
2. More units are analyzed than the minimum number of units required by the RHNA to allow for a buffer. A buffer is required by HCD.

SOURCE: De Novo Planning Group, 2023

2.1.2 PROJECTED ADUS AND SB 9 UNITS ON UNDERUTILIZED SITES

For sites with existing development, it is anticipated that the demand for a second unit through SB 9, which allows lot splits and up to two dwelling units to be constructed per lot on parcels within a single family residential zone for parcels that meet the requirements of State law, including the criteria identified by Government Code Section 65913.4(a)(6)(B) through (K), is mostly represented in the projected ADUs – this is based on many of the

respondents to the Housing Needs and Priorities Survey and Property Owner Survey indicating interest in either an ADU, ADU/JADU, or SB 9 units on their property. However, there is additional demand for units that can be generated through a lot split. The potential for a lot split under SB 9 creates additional opportunities for parcels zoned for single family use beyond the additional unit(s) that can be accommodated through an ADU, JADU, or second unit under SB 9 on an existing lot. Lot splits provide property owners with the ability to build a second unit on their existing lot as well as the opportunity to split a lot and sell one of the lots. The newly split lot can accommodate up to two units.

2.2 INTENDED USES OF THIS EIR

This Draft EIR is a program-level EIR and does not evaluate individual projects that may be allowed under the General Plan 2040 at a site-specific level. Because the General Plan 2040 establishes policies, goals and guidelines, and describes potential development that may or may not be built on any particular site, environmental review will necessarily be general. The CEQA Guidelines instruct that environmental review of a planning-level document need not contain the level of detail required for review of a specific construction project. (CEQA Guidelines, Section 15146 ("[t]he degree of specificity required … will correspond to the degree of specificity involved in the underlying activity.")

The General Plan 2040's inventory of residential sites fulfills a State-mandated requirement to ensure that the Town's RHNA can be accommodated. In other words, the General Plan 2040 identifies enough land designated at appropriate densities to accommodate the RHNA allocation and ensures the Town will rezone its housing sites consistent with General Plan 2040. However, this Inventory does not include all potential development sites within Tiburon, and does not mean that sites identified for residential development will be developed at the allowable densities. In addition, information about the design and placement of buildings on the sites will not be available unless/until a specific development is proposed.

Future development proposals will be reviewed to determine whether their impacts fall within the scope of analysis in this Draft EIR or if additional site-specific environmental review will be required because new potentially significant impacts would result. As provided for in CEQA Guidelines Sections 15152 and 15385, any subsequent environmental document that might be required for a development project could "tier" from this Draft EIR and focus its analysis on any new or more severe significant impacts. A future project could be ministerial, requiring no discretionary action or may require review and approval by the Planning Commission and/or the Town Council, and other agencies as needed.

2.3 REQUIRED APPROVALS

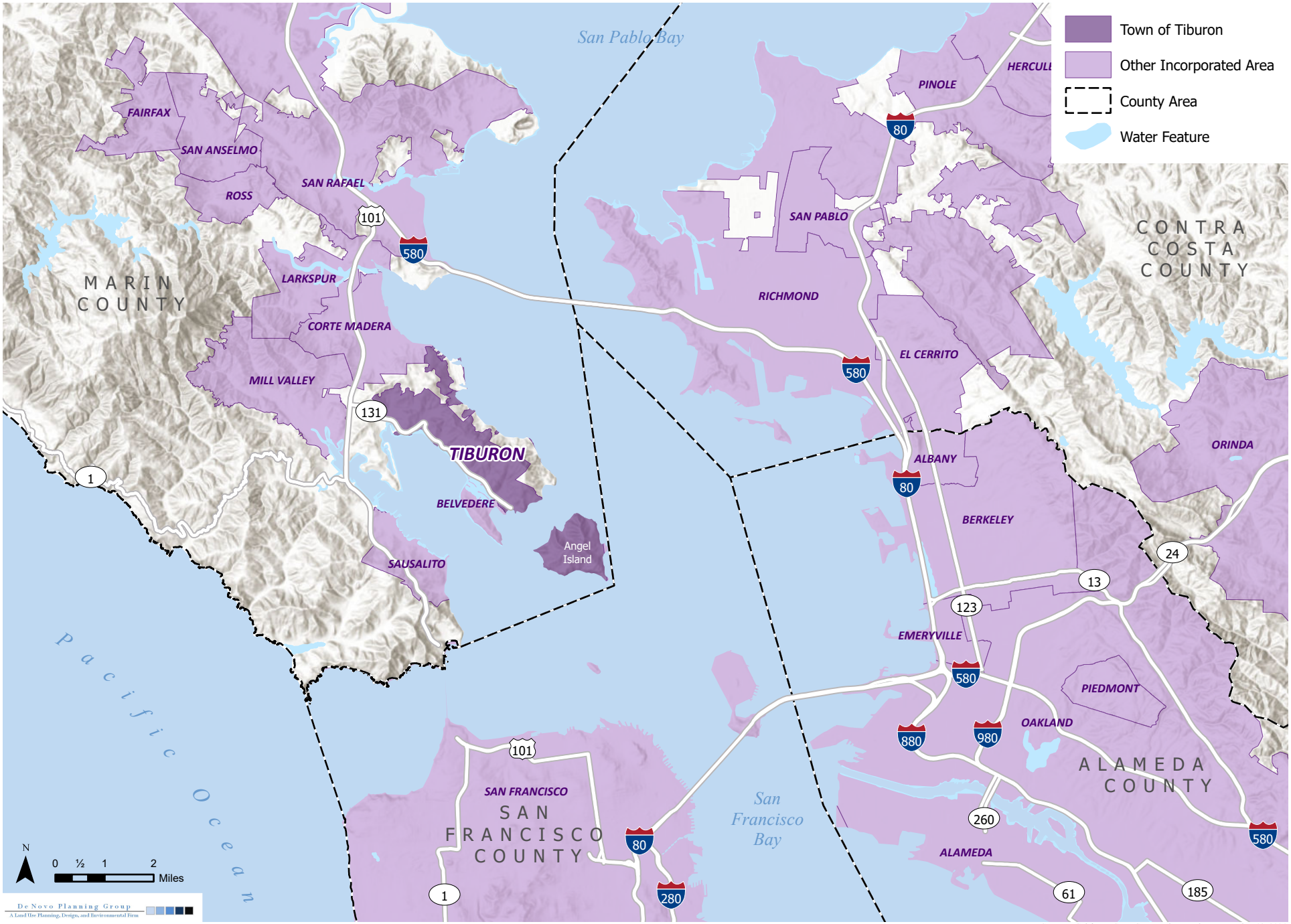
Adoption and implementation of the General Plan 2040 would require a series of interrelated planning and regulatory approvals by the Town, as lead agency as described in Chapter 1.0. Specifically, the Town would take the following approval actions:

- Certification of the EIR pursuant to CEQA;
- Adoption of a resolution to update the 2020 General Plan;
- Adoption of an ordinance (two readings) amending the Town's zoning ordinance and the Town's zoning map to reflect the location and density of land uses permitted by the General Plan 2040.

All of these proposed actions would require review and recommendation by the Planning Commission, followed by consideration and action by the Town Council.

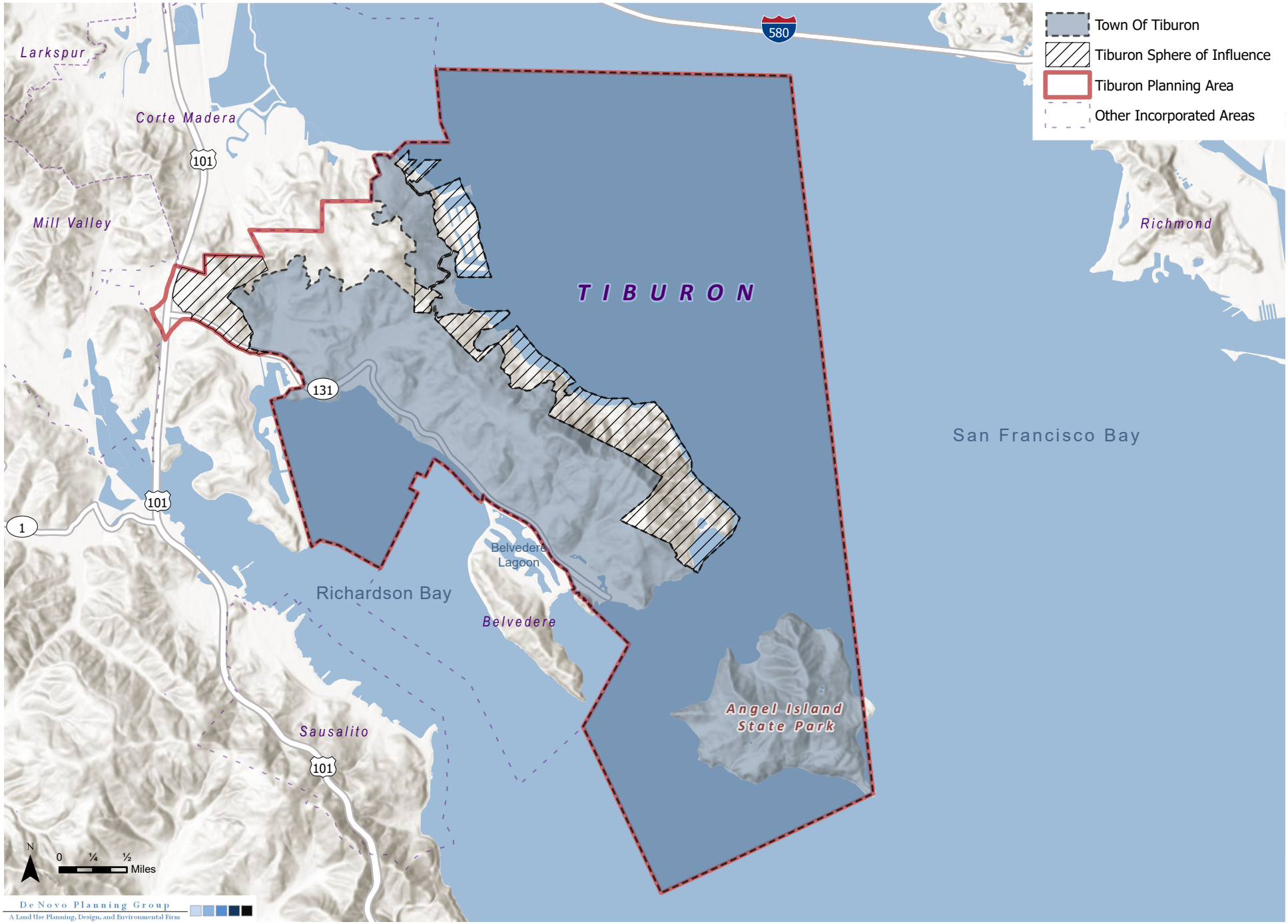
As the Lead Agency and as appropriate under CEQA, the Town also intends the EIR to serve as the CEQA-required environmental documentation for consideration of the Project by Responsible Agencies, Trustee Agencies, and other agencies as described in Chapter 1.0.

Figure 2.0-1. Regional Location Map



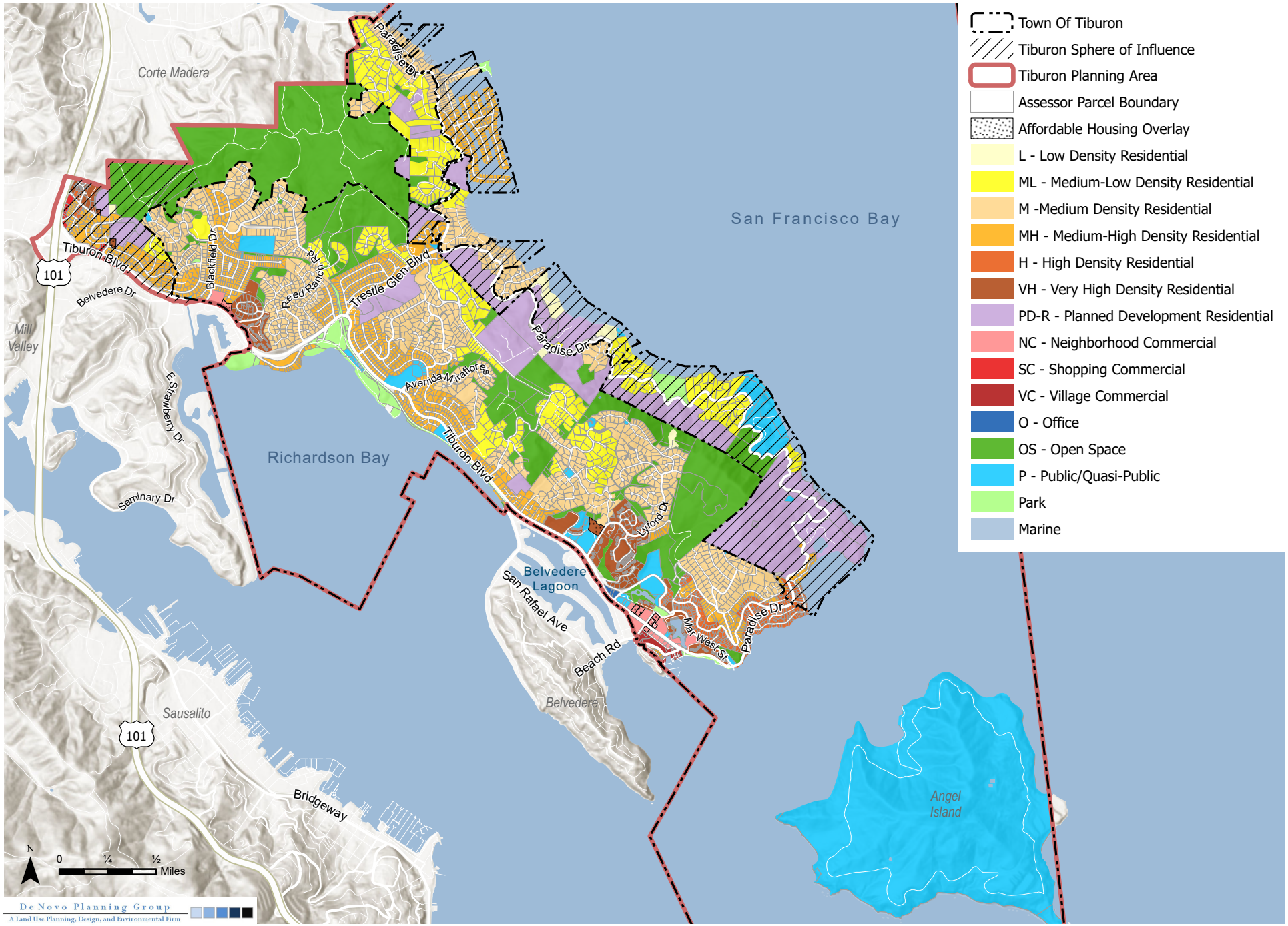
Sources: California State Geoportal. Map date: December 19, 2021.

Figure 2.0-2. Planning Areas



Sources: ArcGIS Online World Hillshade Map Service; Marin County GIS; Map date: January 18, 2023.

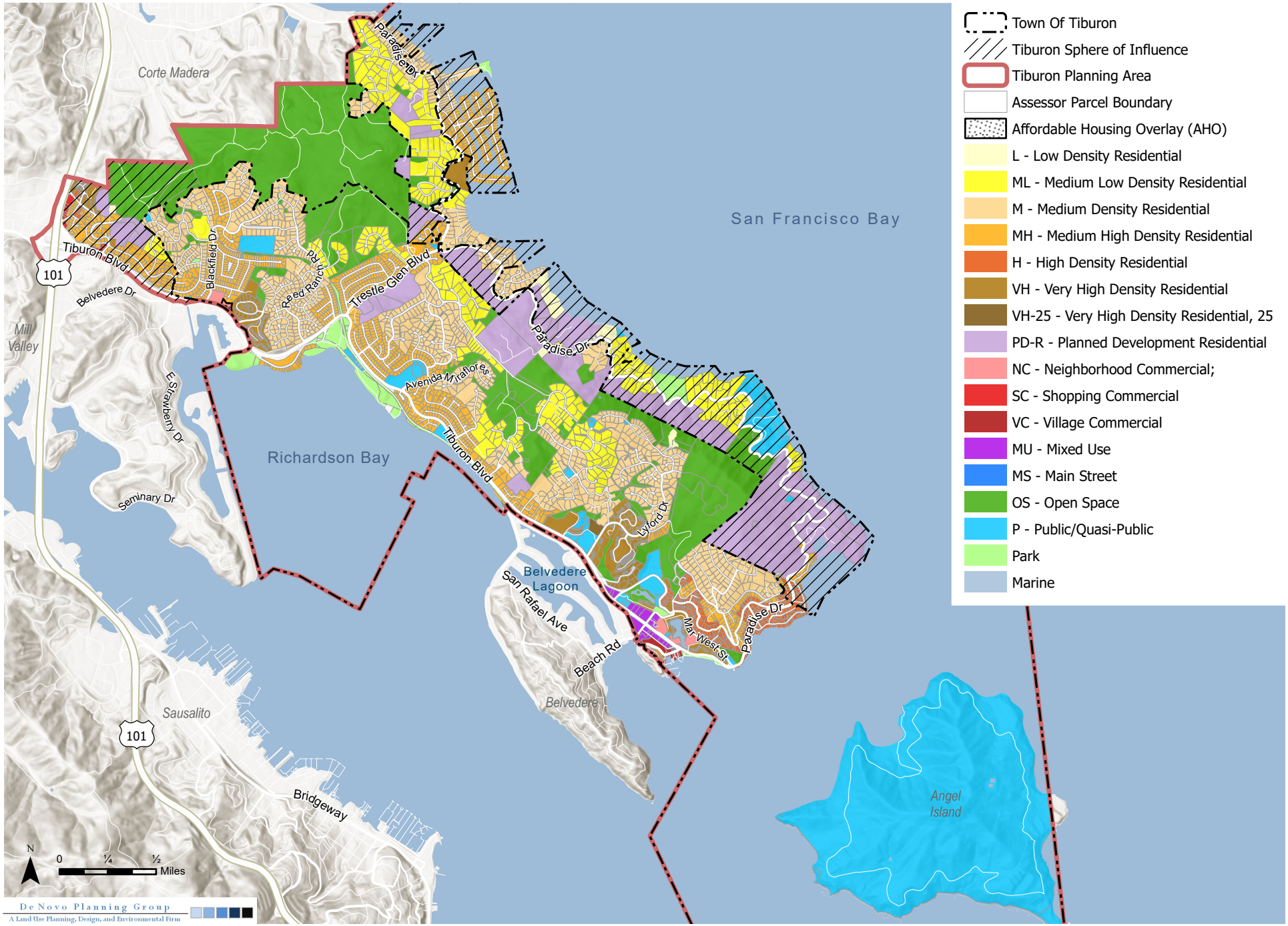
Figure 2.0-3. Existing General Plan Land Use Map



De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

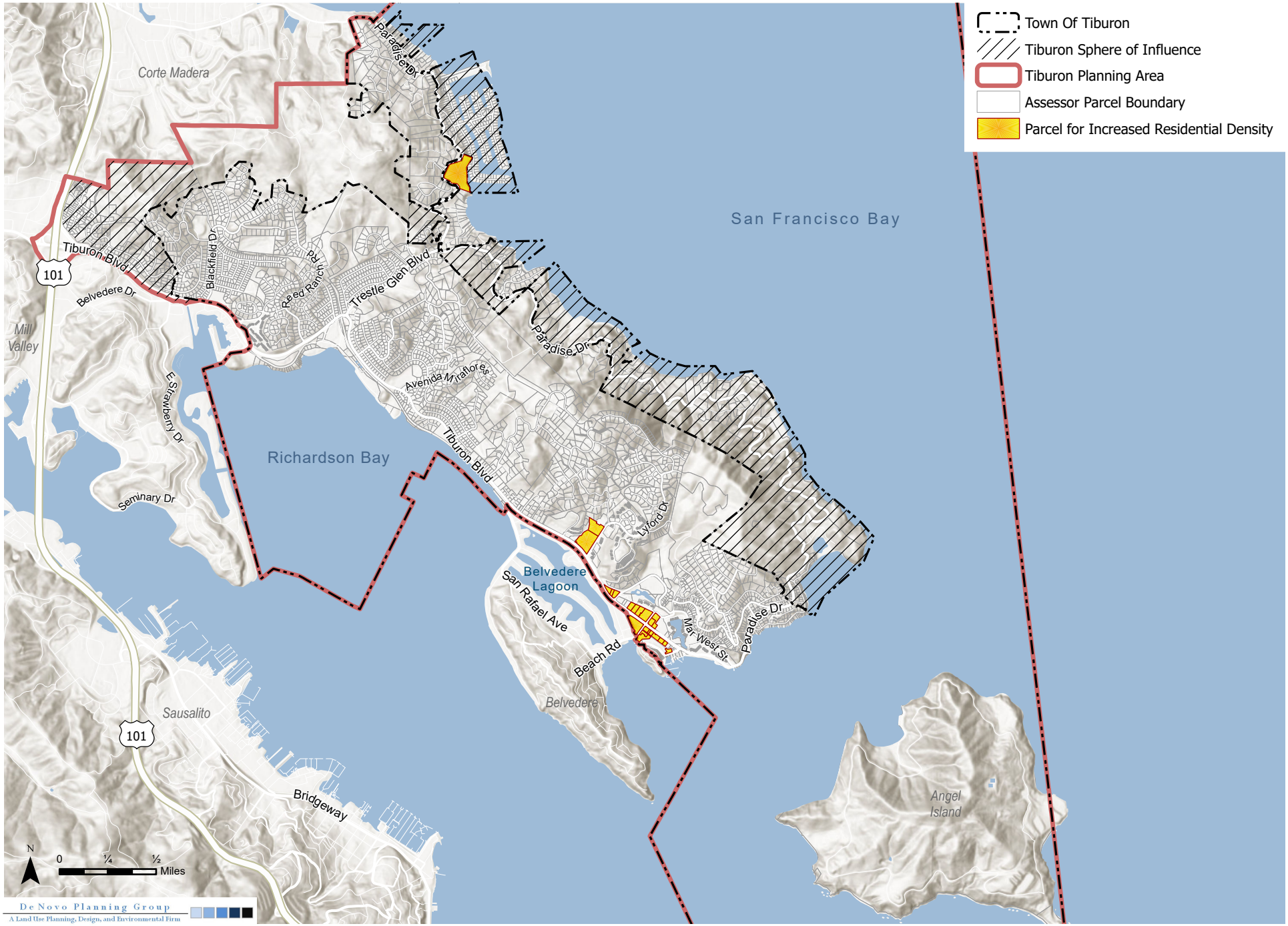
Sources: ArcGIS Online World Hillshade Map Service; Marin County GIS; Town of Tiburon. Map date: March 17, 2023.

Figure 2.0-4. Proposed General Plan Land Use Map



Sources: ArcGIS Online World Hillshade Map Service; Marin County GIS; Town of Tiburon. Map date: March 16, 2023.

Figure 2.0-5. Parcels for Increased Residential Density



Sources: ArcGIS Online World Hillshade Map Service; Marin County GIS; Town of Tiburon. Map date: March 16, 2023.

3.0 ENVIRONMENTAL IMPACT ANALYSIS

This Chapter of the Draft Environmental Impact Report (Draft EIR) evaluates the direct, indirect, and cumulative environmental impacts of the General Plan. In accordance with Appendix G, Environmental Checklist, of the California Environmental Quality Act (CEQA) Guidelines, the potential environmental effects of the General Plan 2040 are analyzed for potential significant impacts in the following environmental issue areas:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural and Tribal Cultural Resources
- Energy
- Geology, Soils, and Seismicity
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population, Housing, and Employment
- Public Services and Recreation
- Transportation
- Utilities and Service Systems
- Wildfire

SECTION ORGANIZATION

Each environmental issue section includes the following sections:

- ***Existing Setting*** provides a description of the existing environmental setting and condition that provides a baseline against which impacts of the General Plan 2040 can be compared.
- ***Regulatory Setting*** contains an overview of federal, State, regional, and local programs and regulations relevant to each environmental issue.
- ***Thresholds of Significance*** refer to quantitative or qualitative standards, performance levels, or criteria used to compare the existing setting with and without the General Plan 2040 to determine whether the impact is significant. These thresholds are based primarily on the CEQA Guidelines, but also may reflect established health standards, ecological tolerance standards, public service capacity standards, or guidelines established by agencies or experts.

- ***Analysis, Impacts, and Mitigation Measures*** describes the methodology used in assessing potential impacts of the General Plan 2040 and contains an analysis of direct and indirect impacts from construction, operation, and maintenance activities related to future development that could occur under the General Plan 2040. For each impact identified, a level of impact will be described using the following categories:
  - **Significant** impacts include a description of the circumstances where an established or defined threshold would be exceeded.
  - **Less than significant** impacts include effects that may be noticeable, but do not exceed established or defined thresholds. Potentially significant impacts that are mitigated to a less-than-significant level by mitigating programs, actions, or other factors are also included in this category.
  - **No impact** describes circumstances where there is no adverse effect on the environment.

CUMULATIVE IMPACT ANALYSIS METHODOLOGY

A cumulative impact is an impact created by the combination of the project evaluated in the EIR and other reasonably foreseeable projects or actions. CEQA Guidelines Section 15130 requires an EIR to discuss cumulative impacts of a project when the project's incremental effect is "cumulatively considerable." Used in this context, cumulatively considerable means that the incremental effects of an individual project are considerable when viewed in connection with effects of past projects, other current projects, and probable future projects.

In the case of a General Plan, cumulative effects occur when future development under the General Plan is combined with development in surrounding areas, or in some instances, within the entire region. Where the incremental effect of a project is not "cumulatively considerable," a lead agency need not consider that effect significant but must briefly describe its basis for concluding that the effect is not cumulatively considerable.

The cumulative impact discussions in Sections 3.1 through 3.16 explain the geographic scope of the area affected by each cumulative effect (e.g., immediate project vicinity, city, planning area, county, watershed, or air basin). The geographic area considered for each cumulative impact depends upon the impact that is being analyzed. For example, in assessing noise impacts, the geographic study area is more local and includes the immediate vicinity of the areas of new development under the General Plan. In assessing air quality impacts, all development within the air basin contributes to regional emissions of criteria pollutants and basin-wide projections of emissions is the best tool for determining cumulative effect.

Section 15130 of the CEQA Guidelines permits two different methodologies for completion of the cumulative impact analysis.

- The "list" approach permits the use of a list of past, present, and probable future projects producing related or cumulative impacts, including projects both within and outside the city; and

- The "projections" approach allows the use of a summary of projections contained in an adopted plan or related planning document, such as a regional transportation plan, or in an EIR prepared for such a plan. The projections may be supplemented with additional information such as regional modeling.

This Draft EIR uses the projections approach and takes into account growth from the General Plan 2040 within the Tiburon Planning Area, in combination with impacts from projected growth in the rest of Marin County and the surrounding region, as forecast by the Association of Bay Area of Governments (ABAG).

3.1 AESTHETICS

This section of the Draft EIR (Draft EIR) describes the existing visual character of the Planning Area, including scenic vistas, scenic resources within scenic highways and roadways, public views, and existing sources of light and glare. Scenic vistas are long-range views of prominent scenic or background features such as open space lands or mountain ridges. Public views are short- and medium-range views visible from publicly accessible viewpoints, such as Town of Tiburon (Town) streets or Town parks. This section also evaluates impacts to aesthetics that may be anticipated to occur from implementation of the General Plan 2040 (Project). Future discretionary projects facilitated by the General Plan Update will be evaluated for project-specific impacts to aesthetics at the time they are proposed.

Information in this section is based, in part, on information provided by the following reference materials:

- Town of Tiburon 2020 General Plan;[1]
- Town of Tiburon 2020 General Plan EIR;[2]
- Town of Tiburon Municipal Code;[3] and
- Marin Countywide Plan.[4]

3.1.1 EXISTING SETTING

Regional Scenic Resources

Visual resources are generally classified into two categories: scenic views and scenic resources. Scenic views are elements of the broader viewshed such as mountain ranges, valleys, and ridgelines. They are usually mid-ground or background elements of a viewshed that can be seen from a range of viewpoints, often along a roadway or other corridor. Scenic resources are specific features of a viewing area (or viewshed) such as trees, rock outcroppings, and historic buildings. They are specific features that act as the focal point of a viewshed and are usually foreground elements.

Aesthetically significant features occur in a diverse array of environments within the region, ranging in character from urban centers to rural agricultural lands to natural water bodies. Features of the built environment that may also have visual significance include individual or groups of structures that are distinctive due to their aesthetic, historical, social, or cultural significance or characteristics. Examples of the visually significant built environment may

[1] Available at: http://www.townoftiburon.org/206/General-Plan
[2] Town of Tiburon. Tiburon General Plan 2020 General Plan Update Draft Environmental Impact Report. 2005.
[3] Available at: https://library.municode.com/ca/tiburon
[4] Available at: https://www.marincounty.org/depts/cd/divisions/planning/2007-marin-countywide-plan

include bridges or overpasses, architecturally appealing buildings or groups of buildings, landscaped freeways, and a location where a historic event occurred.

Within the greater regional context of Marin County, there are 3 federal parks, 7 state land parks, 459 acres of County-owned parks, and 1,491 acres of local parks owned by municipalities. Approximately 85 percent of the park land is provided by the Point Reyes National Seashore and the Golden Gate National Recreational Area federal lands. There are also a handful of facilities operated by private non-profit organizations. In addition, 464 linear miles of trails are open to the public, including 26 miles of paved pathways. Marin County has many open space and watershed lands that are generally protected for environmental purposes and are not available for active recreation. However, these lands provide valuable open space visual resources of the world-famous Pacific Ocean coastline, redwood forests, and natural landforms. The municipal parks situated within the built environment offer natural areas, trails, water features, and visual breaks within urban environments.

Marin County has 34 open space preserves providing 14,675 acres of ridgelands, baylands, and environmentally sensitive lands with 175 miles of trails and fire roads available for public use. Many of these open space lands are located near residential communities providing not only habitat for wildlife but visual resources for the nearby communities.

Tiburon is located on the Tiburon Peninsula, surrounded on three sides by the San Francisco Bay, Raccoon Straits, and Richardson Bay. From the San Francisco Bay, the Tiburon Peninsula rises steeply to the Tiburon Ridge, which extends from Ring Mountain (elevation 602 feet) at the western edge of the Town through Mount Tiburon (elevation 748 feet) in the eastern part of the Tiburon Peninsula. Angel Island, a State Park located within the Town limits, rises from San Francisco Bay to a height of 788 feet at Mount Livermore. The southwest facing side of the Tiburon Peninsula, overlooking Richardson Bay, consists primarily of open spaces and sloping grasslands. The north-facing side, overlooking San Francisco Bay and San Pablo Bay is sparsely developed and steep with dense tree cover over much of the area. The central spine of the Tiburon Ridge is an important feature that defines the geographic context of the Town.

Scenic Highways and Corridors

Scenic highways and corridors make major contributions to the quality of life enjoyed by the residents of a region. The development of community pride, the enhancement of property values, and the protection of aesthetically pleasing open spaces reflecting a preference for the local lifestyle are all ways in which scenic corridors are valuable to residents.

Scenic highways and corridors can also strengthen the tourist industry. For many visitors, highway corridors will provide their only experience of the region. Enhancement and protection of these corridors ensures that the tourist experience continues to be a positive

one and, consequently, provides support for the tourist-related activities of the region's economy.

Scenic Highways: A scenic highway is generally defined by Caltrans as a public highway that traverses an area of outstanding scenic quality, containing striking views, flora, geology, or other unique natural attributes. A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view.

Scenic Corridors: A scenic corridor is the view from the road that may include a distant panorama and/or the immediate roadside area. A scenic corridor encompasses the outstanding natural features and landscapes that are considered scenic. It is the visual quality of the man-made or natural environments within a scenic corridor that are responsible for its scenic value. Commonly, the physical limits of a scenic corridor are broken down into foreground views (zero to one quarter mile) and distant views (over one quarter mile). In addition to distinct foreground and distant views, the visual quality of a scenic corridor is defined by special features, which include:

- Focal points - prominent natural or man-made features which immediately catch the eye.
- Transition areas - locations where the visual environment changes dramatically.
- Gateways - locations which mark the entrance to a community or geographic area.

Many of the roadways throughout Marin County and within proximity to Tiburon offer views of some of the County's most scenic resources. There are currently no designated State Scenic Highways or National Scenic Byways within the Planning Area. However, the entire stretch of State Route 1 and sections of U.S. 101 running through Marin County, and within a mile of the Planning Area, are eligible to be a State Scenic Highway. The criteria for official designation and eligibility includes the scenic quality of the landscape, how much of the natural landscape can be seen by travelers, and to the extent to which development intrudes upon the traveler's enjoyment of the view. The Planning Area is visible from both roadway segments.

Ridgelines

Ridgelines are defined as a line formed along the highest points of a mountain ridge, or as an area of higher ground separating two adjacent streams or watersheds. Besides water, ridgelines are the most visually defining open space attribute in the Planning Area. Ridgelines also provide the greatest opportunity for community scenic value. Public access to the Tiburon Ridge and Significant Ridgelines in the Planning Area, as designated by Town Council Resolution 2859 and as shown on Figure 3.1-1, allows community members to enjoy unique views within the Town. Significant Ridgelines defined by this Resolution, including these at the end of the Tiburon Peninsula, have been identified by the Town and their protection has

been given the highest priority in the Open Space & Conservation Element of the Town's 2020 General Plan.

Open Space and Other Scenic Resources Areas

Public parklands and open space land uses largely contribute to the visual environment of Tiburon and Marin County. However, the community character of the built environment also plays a crucial role in defining the visual environment. While Mount Tamalpais State Park encompasses the most dominant natural landform in the county, other visually prominent ridgelines are designated within the Ridge and Upland Greenbelt areas. Restrictions are placed on development in these areas to protect the visual quality of the ridgelines, hills, and view corridors. This includes Angel Island and hillside areas within the Planning Area.

Communities within Marin County, including Tiburon, have traditionally strived to design compact villages, towns and cities that blend with the surrounding natural and agricultural landscapes. By encouraging residential development near city or town centers, walkable neighborhoods maintain a pedestrian-scale heritage, such as Tiburon with its urban waterfront areas, designed to promote public use with residential communities nearby. Tiburon has a special visual character that benefits from attractive building design and layouts. County and local ordinances have protected nearby ridgelines and viewsheds. By regulating urban and rural design standards, new structures, additions, lighting, signs, landscaping, infrastructure and other design elements can offer visual resources by complementing existing character and the surrounding natural environment and view corridors. When the scenic qualities of the built environment are protected, residents and visitors can enjoy a distinctive visual environment.

Tiburon has a unique visual environment with an attractiveness and diversity of landscape that includes views of open space, ocean vistas, Richardson Bay shoreline, San Francisco Bay shoreline, hills and ridgelines, agriculture lands, stands of various types of trees and other natural features. The Railroad Marsh area, Old Saint Hilary's Open Space Preserve, Middle Ridge, Ring Mountain Open Space Preserve, and other areas within Tiburon are designated as Public Open Space in the 2020 General Plan. As previously described, ridgelines are also described in the 2020 General Plan as the most visually defining open space attribute and greatest opportunity for community scenic value in the Planning Area. Figure 3.1-2 shows public and private open space and parks and recreation areas within the Planning Area.

Water and shoreline resources are important visual resources that draw tourists to the area for recreational opportunities, provide critical habitat, and provide for scenic areas within and surrounding urban areas. The most visually significant bodies of water in the Planning Area are Richardson Bay and San Francisco Bay which form the southwestern and northern boundaries of the Tiburon Peninsula, respectively. The appearance of the San Francisco Bay, and people's enjoyment of it as a scenic resource, contribute to the enjoyment of daily life in the Bay Area. As a special kind of open space, the Bay acts as both the unifying element of the entire Bay region and as a physical divider of its parts. The wide surface of the Bay, and

the distant vistas it affords, offer relief from the crowded, often chaotic, urbanized scene and help to create a sense of psychological well-being.

Another one of the visual attractions of San Francisco Bay is its abundance of wildlife, particularly birds and other special status species which are constantly moving around the Bay waters, marshes, and mudflats in search of food and refuge. Wildlife refuges like the Audubon Society Wildlife Refuge, located in the Planning Area, provide scenic areas where wildlife can congregate and move freely.

Trees and woodland areas are important natural resources which provide habitat for birds and shaded, protected areas for other animals; and help to stabilize hillsides. Trees and wooded areas also contribute to the visual character of the community. Trees and woodlands are valued by the Town for their ecological importance, their visual enhancement of the community, and their contribution to residential privacy and quiet.

Wetlands are not only important for habitat; sediment, erosion and pollution control; flood storage; water recharge; recreation and scientific research; and education; but also, for their scenic value. Wetlands are among the most important land-based qualities of open space because they of their abundance of unique ecosystems and wildlife. In addition, views from or across water give the Planning Area a regional open space value.

Furthermore, for the same reasons, streams and riparian habitat are an important scenic resource and are a critical component of high-quality habitat. Woody vegetation provides shade that keeps water temperatures within tolerable ranges for aquatic organisms, stabilizes streambanks and floodplains, and provides protective cover for wildlife. They also offer unique areas to recreate and explore.

Overall, the Town has approximately 1,309 acres of open space within the Planning Area. Figure 3.1-1 provides an overview of visual and scenic characteristics of the Planning Area, including ridge and upland greenbelt areas, areas with significant tree cover, Tiburon Ridge and significant ridgelines, streams, and wetland/riparian features.

Local View Corridors

The Open Space and Conservation Element specifically contains policies that call for the protection and preservation of view corridors and open space views from key roadways, including Tiburon Boulevard, Trestle Glen Boulevard, and Paradise Drive. These roadways are identified on Figure 3.1-1.

Light and Glare

Light pollution refers to the inappropriate or excessive use of artificial light. Components of light pollution include glare (excessive brightness that causes visual discomfort), light trespass (light falling where it is not intended or needed), sky glow (brightening of the night sky over inhabited areas), and clutter (bright, confusing and excessive groupings of light

sources).[5] Light pollution impairs views of the night sky and can be disruptive to humans and nocturnal animal species.

During the day, sunlight reflecting from structures is a primary source of glare, while nighttime light and glare can be stationary or from mobile sources. Stationary sources of nighttime light include structure illumination, interior lighting, decorative landscape lighting, and streetlights. The principal mobile source of nighttime light and glare is vehicle headlamp illumination.

Urban land uses on the Town's waterfront are the main source of daytime and nighttime light and glare. The hillsides are characterized by less intense development and generally have lower levels of ambient nighttime lighting and daytime glare. The existing light environment found in the Planning Area is considered typical for suburban areas.

3.1.2 REGULATORY SETTING

Federal

There are no federal regulations pertinent to aesthetic resources.

State

State Scenic Highway Program

The California Department of Transportation (Caltrans) administers the State Scenic Highway Program to preserve scenic highway character and protect them from changes that may diminish aesthetic value of adjacent lands. Within Marin County, there are no Officially Designated State Scenic Highways.[6]

Nighttime Sky – Title 24 Outdoor Lighting Standards, 2022

The California Energy Commission (CEC) regulates energy efficiency of outdoor lighting for new development. The standards serve to improve outdoor lighting quality by reducing impacts of light pollution, light trespass, and glare.[7] The standards regulate characteristics such as maximum power and brightness, shielding, and sensor controls to turn lighting on and off. Exterior lighting allowances vary by Lighting Zones (LZ). The lowest illumination

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5 International Dark-Sky Association. 2020. Light Pollution. Website: https://www.darksky.org/light-pollution/. Accessed February 13, 2023.

6 California Department of Transportation (Caltrans). 2019. List of eligible and officially designated State Scenic Highways. Website: https://dot.ca.gov/-/media/dot-media/programs/design/documents/desig-and-eligible-aug2019_a11y.xlsx. Accessed February 13, 2023.

7 California Energy Commission (CEC). 2022 2022 Building Energy Efficiency Standards for Residential and Nonresidential Buildings: For the 2022 Building Energy Efficiency Standards Title 24, Part 6, and Associated Administrative Regulations in Part 1. Website: https://www.energy.ca.gov/sites/default/files/2022-12/CEC-400-2022-010_CMF.pdf. Accessed February 13, 2023.

levels are encouraged in LZ0 (very low) and increasingly more power is allowed in LZ1 (low), LZ2 (moderate), LZ3 (moderately high), and LZ4 (high). The Statewide default location for each LZ is as follows:

- LZ0: Undeveloped areas of government designated parks, recreation areas, and wildlife preserves.
- LZ1: Developed portion of government designated parks, recreation areas, and wildlife preserves.
- LZ2: Rural areas, as defined by the 2010 U.S. Census.
- LZ3: Urban areas, as defined by the 2010 U.S. Census.
- LZ4: No statewide default location. Special district created by local government.

Local

Tiburon 2020 General Plan

The 2020 General Plan contains goals, policies, and implementation actions that promote protection and enhancement of aesthetics in the Town. These regulations can be found in the Open Space and Conservation Element and Downtown Element.

Town of Tiburon Municipal Code

Chapter 15 - View and Sunlight Obstruction from Trees. The purpose of this chapter is to establish standards and regulations in order to preserve views from unreasonable obstruction and establish a process by which impacted persons may seek restoration of obstructed views by growth of trees.

Chapter 15a - Trees. The purpose of this chapter is to establish standards and regulations for the removal, alteration, and planting of certain trees.

Chapter 16a - Signs. The provisions of this chapter establish and regulate the location, size, type and number of signs allowed within the Town, and guide the design, aesthetics, materials, and illumination of signs within the Town.

Section 16-30.070, Lighting, establishes standards and regulations related to exterior lighting. This section is to ensure lighting does not invade the privacy of other properties or produce glare or light pollution.

Section 16-32.080, Parking design and development standards, establishes standards and regulations related to exterior lighting for parking lots.

Section 16-52.020, Site Plan and Architectural Review, provides standards for a Design Review process for development in the Town. The purpose of site plan and architectural review is to ensure that the design of proposed construction and new land uses assists in maintaining and enhancing Tiburon's character. Specifically, the site plan and architectural review process ensures that new uses and structures are compatible with the surrounding neighborhood; retains and strengthens the visual quality and character of the Town; and

ensures that construction complies with all applicable Town standards and guidelines, and does not adversely affect community health, safety, aesthetics, or natural resources.

Section 16-23.060, Historic Protection Overlay Zone Allowable Uses and General Development Standards, provides standards for development within the HPO (Historic Protection Overlay) Zone. The purpose of the HPO Zone is to protect, maintain and enhance historic structures in the downtown area that are included in the Town's local historic inventory of buildings located in downtown Tiburon ("Inventory"), as adopted by resolution of the Town Council and amended from time to time. The HPO zone is intended to safeguard the Town's heritage as embodied and reflected in the buildings listed in the inventory.

Town Council Resolution 2859

In 1992, the Town Council adopted Resolution 2859 which affirmed that "in balancing open space interests with development interests, decision-makers shall consider the protection of ridgelines to the maximum extent feasible to be of the highest priority." The Resolution also designated other Significant Ridgelines to be subject to General Plan and Zoning Ordinance policies and regulations concerning "ridgelines, significant ridgelines, and secondary ridgelines." The Significant Ridgelines designated by Town Council Resolution 2859 are shown on Figure 3.1-1.

Downtown Tiburon Design Handbook

The Downtown Tiburon Design Handbook (Handbook) is intended to serve as a guide for the retention, revitalization, and new construction of buildings, storefronts, and streetscapes in Downtown Tiburon. The Handbook consists of goals, basic design concepts, and design guidelines. While the guidelines address many specific design elements, they differ from absolute standards found in ordinances, and are nonprescriptive in nature. Their major objective is to promote the development of recognizable building designs and site furnishings consistent through the Downtown and responsive to Tiburon’s historic legacy.

Downtown Tiburon consists of three areas or districts that possess building types, architectural styles, periods of development and settings of individual distinction. The distinctive, character-defining features of each area are summarized below as orientation to Downtown Tiburon’s three commercial districts.

Main Street, in many respects, is a traditional small town, American Main Street commercial district, in terms of its scale, proportions, building types, architectural styles and features, and phases of development. At the same time, it exists as a “shoreline” Main Street, that is, the rear areas of buildings which line one side of Main Street “front” directly onto San Francisco Bay. With two exceptions, there are no front or side yard setbacks to the buildings on Main Street. The front facades of the buildings define the character and function of the street, and the storefronts, as the prominent element, are open and inviting. Business signs are secondary to the storefront and building. Building ornament and trim are authentic, and materials are genuine. The period of historical significance for Main Street has been defined as 1870 to 1921.

Ark Row, for the most part, exists as an informal, historically-significant collection of several arks and cottages which once served as summer homes on Belvedere Cove. Together with some newer buildings, Ark Row today consists of shops and small offices. Ark Row's buildings are separated from the street and from one another with front and side yard setbacks. Side-yard steps exist in many cases to address grade-separated front and rear areas. Two-story rear facades "front" onto a large, centrally-located parking lot. Terraces, planter boxes and trees augment Ark Row's buildings and storefronts, and the use of building materials, colors and landscaping along Ark Row reflects its residential origins. The period of historical significance for Ark Row also has been defined as 1870 to 1921.

Tiburon Boulevard, as a strip of contemporary commercial development, is, in direct contrast to Main Street and Ark Row, strongly oriented to the motor vehicle. As Downtown Tiburon's "Main Drag," it makes a dramatic transition from its civic and office buildings and resident-serving convenience shopping to a waterfront park that affords magnificent views of Angel Island, Racoon Straits and the San Francisco skyline. Many of its larger parcels accommodate a single use or tenant housed in a relatively large building. Most of the postwar and newer buildings tend to be decidedly horizontal in shape and proportions, with site development that generally includes generous front and side yard setbacks, some use of plant materials, and highly visible on-site parking. Buildings and uses that line Tiburon Boulevard vary considerably in street orientation, including some whose rear areas "front" onto Juanita Lane.

3.1.3 THRESHOLDS OF SIGNIFICANCE

According to CEQA Guidelines Appendix G, except as provided in Public Resources Code Section 21099, the proposed project will have a significant impact related to aesthetics if it would:

- Have a substantial adverse effect on a scenic vista
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway
- In non-urbanized areas, substantially degrade the existing visual character or quality of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point).
- If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

3.1.4 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

Impacts related to aesthetics resulting from implementation of the General Plan 2040 are discussed below. The impact analysis is based on the existing visual character of the Planning Area, including scenic vistas, highways, roadways, and existing sources of light and glare.

Changes to aesthetic resources that may occur from future development in accordance with the General Plan 2040 are identified and qualitatively evaluated based on potential modifications to the existing aesthetic setting. Impacts related to aesthetics are assessed using significance criteria established by the CEQA guidelines.

Impact 3.1-1 Development facilitated by the General Plan Update would not have a substantial adverse effect on a scenic vista.

Development accommodated under the General Plan 2040 would result in additional residential and non-residential development throughout the Town. Development would be limited to vacant and/or underutilized existing parcels, or redevelopment of currently developed parcels. The potential infill development would occur within the fabric of developed areas throughout the Town.

The Town defines scenic vistas in Policy OSC-32 of the General Plan 2040, which states: "The Town shall protect visual access to the bayfront and scenic vistas of water and distinct shorelines through its land use and development review procedures, to the greatest extent feasible." The Tiburon Municipal Code and Downtown Tiburon Design Handbook do not regulate scenic vistas.

Development under the General Plan 2040 could alter existing views that are defined by the Town's existing General Plan, including views of water and distinct shorelines. For example, development occurring within the vacant sites designated as Medium Density Residential within the Planning Area have the potential to impact scenic vistas of water and distinct shorelines.

As discussed below, mandatory compliance with design review regulations and policies in the Tiburon Municipal Code and General Plan 2040 would ensure that aesthetic impacts from new residential, mixed use, commercial, and community, and natural resource development under the General Plan 2040 would be less than significant. In order to integrate structures with the natural environment and protect natural features, the Town includes policies and programs that require project specific environmental analyses for future residential and non-residential developments during the design review process.

The General Plan 2040 includes the following policies and programs that pertain to scenic vistas:

> Policy OS-10 (Setbacks from Tiburon Ridge): Development and the construction of buildings and yard improvements associated with development, including landscaping and trees, shall be set back from either side of Tiburon Ridge as established in Figure OS-2:
>
> 1) a minimum of 150 horizontal feet, and
> 2) a minimum of 50 vertical feet, measured from the highest point of the roofline of a structure or tree.

If strict application of these requirements prevents all reasonable use of the property, encroachment into the setbacks may be allowed provided that structures are limited to a maximum 15 feet in height, as defined by the Tiburon Zoning Ordinance (Chapter 16 of the Tiburon Municipal Code), and provided that both horizontal and vertical encroachment are minimized.

Program OS-d (Ridgeline and Hillside Development Regulations): Amend the Zoning Ordinance to incorporate the required setbacks from Significant Ridgelines contained in Policies OS-10 and OS-11, limitations on development of steep slopes in Policy OS-13, and the objective hillside development standards from the Design Guidelines for Hillside Dwellings.

Policy OS-11 (Setbacks from Significant Ridgelines): Development shall be set back from Significant Ridgelines as established in Figure OS-2. Setbacks shall be based on an evaluation of the following characteristics: local and regional visual prominence, ability to connect to existing or potential open space, potential to act as a neighborhood separator, views of and views from, length, height, presence of trees, presence of unusual physical characteristics, highly visible open slopes, significant vegetation, sensitive habitat, special silhouette or back-drop features, difficulty of developing or accessing, and integrity of the ridgeline land form.

In evaluating Significant Ridgelines for protection, all characteristics identified in Policy OS-11 should not be judged equally. Significant Ridgelines that have a high visual prominence, have the potential to connect to the Tiburon Ridge Trail, or have a distinct ridgeline land form, such as those found at the eastern terminus of the Tiburon Ridge, should be afforded greater protection than those that have low visibility, do not connect to the Tiburon Ridge, or do not have distinct ridgeline land forms.

If strict application of these requirements prevents all reasonable use of the property, encroachment into the setbacks may be allowed provided that structures are limited to a maximum 15 feet in height, as defined by the Tiburon Zoning Ordinance, and provided that both horizontal and vertical encroachment are minimized.

Policy LU-6 (Residential Neighborhoods): Maintain and enhance the residential character of neighborhoods. Require that new development, remodels, and additions be of a scale, intensity and design that integrates with the immediate neighborhood and natural surroundings.

Program LU-j (Residential Hillside Design Guidelines): Update the Design Guidelines for Hillside Dwellings to create more objective standards that meet the requirements of State law but achieve the desired scale and design character that is compatible with existing neighborhoods.

> Policy LU-7 (View Preservation): Minimize the reduction of views, privacy, and solar access for neighboring properties. Locate and limit the height of new development and associated landscaping to interfere minimally with existing primary views.

Additionally, all development would be required to comply with the policies and programs of the proposed General Plan 2040 designed to protect view corridors, scenic resources, and natural features. For example, Policy OS-10 requires development and the construction of buildings and yard improvements associated with development to be setback from Tiburon Ridge (shown in Figure OS-1 of the General Plan 2040) by 50 to 150 feet, with strict exceptions. Similarly, Policy OS-11 requires development to be set back from Significant Ridgelines as established in Figure OS-2 of the General Plan 2040. Setbacks for this policy shall be based on an evaluation of the following characteristics: local and regional visual prominence, ability to connect to existing or potential open space, potential to act as a neighborhood separator, views of and views from, length, height, presence of trees, presence of unusual physical characteristics, highly visible open slopes, significant vegetation, sensitive habitat, special silhouette or back-drop features, difficulty of developing or accessing, and integrity of the ridgeline land form. Program OS-d requires amendments to the Zoning Ordinance to incorporate the required setbacks from Significant Ridgelines contained in Policies OS-10 and OS-11, limitations on development of steep slopes in Policy OS-13, and the objective hillside development standards from the Design Guidelines for Hillside Dwellings. Codifying these ridge setback requirements would ensure that views of ridges are preserved.

Further, Policy LU-6 requires maintenance and enhancement of the residential character of neighborhoods by requiring that new development, remodels, and additions be of a scale, intensity and design that integrates with the immediate neighborhood and natural surroundings. Program LU-j requires an update of the Design Guidelines for Hillside Dwellings to create more objective standards that meet the requirements of State law but achieve the desired scale and design character that is compatible with existing neighborhoods. Policy LU-7 requires minimization of the reduction of views, privacy, and solar access for neighboring properties. Pursuant to this policy, new development shall be located, the height of new development shall be limited, and associated landscaping shall be provided to interfere minimally with existing primary views. Compliance with these policies would ensure that hillside and other development has limited heights, and is evaluated for view blockage and compatibility with surrounding natural areas.

As the Town receives development applications, it will review those applications under the design review procedures in Section 16-52.020 (Site Plan and Architectural Review) of the Tiburon Municipal Code. All development would be subject to development and design standards specified in the Tiburon Municipal Code.

As part of the development review process, the Tiburon Municipal Code imposes rules and regulations to maintain the natural environment, as well as development and design standards to ensure that new development is consistent and compatible with the Town's

established character and preserves views. Chapter 15 establishes that trees must not unreasonably obstruct views from or sunlight reaching other property, and outlines criteria for determining unreasonable obstruction and appropriate restorative action. Section 16-30.040 establishes height limits for fences and walls to protect privacy and views, and Section 16-30.050 establishes height limits for buildings and structures to protect privacy and views. For projects that require design review, the Design Review Board will review site design, building placement, and building height to ensure that the development is appropriately designed and located to minimize visual impacts to adjacent properties and the general public. Potential issues related to view obstruction would be addressed, in accordance with Section 16-52.020 (Site Plan and Architectural Review), thereby reducing impacts to scenic vistas. As required by the proposed General Plan 2040, new buildings in the Town's Planning Area would be no taller than three stories.

In addition, the General Plan 2040 includes policies and programs designed to preserve wildlife and aquatic habitat and other sensitive natural communities, which would in turn maintain aesthetic quality of creeks within urbanized areas. Policy C-3 aims to preserve and enhance the diversity of wildlife and aquatic habitats found in the Planning Area bayfront lands, including tidal marshes, seasonal marshes, lagoons, wetlands, and low-lying grasslands over historical marshlands. Policy C-4 prohibits development from encroaching into sensitive wildlife habitats, limiting normal range areas, or creating barriers to wildlife that cut off or substantially impede access to food, water, or shelter, or cause damage to fisheries or fish habitats. As part of this policy, access to environmentally sensitive marshland and adjacent habitat shall be restricted, especially during spawning and nesting seasons. Policy C-6 requires buffer zones of at least 100 feet between development and wetland areas to the maximum extent possible. Program C-a requires amendments to the Zoning Ordinance to incorporate wetland and streamside development setbacks. Policy C-8 requires preservation and/or expansion of freshwater habitats in the bayfront areas associated with freshwater streams and small former marshes so that the circulation, distribution, and flow of the fresh water supply are facilitated. Policy C-9 requires open space buffers of at least 50 feet on each side of the top of the bank of perennial, intermittent, and ephemeral streams on properties less than five acres, and of at least 100 feet on each side of the top of the bank on properties greater than five acres, to minimize disturbance of natural vegetation and maintain the environmental and scenic attributes of the corridor. As part of this policy, where modification of corridors is required for flood control or crossings, such modification shall be made in an environmentally sensitive manner that enhances, replaces, or retains vegetation. Future development in accordance to the General Plan 2040 would be subject to these General Plan policy and program requirements.

In conclusion, development envisioned by the General Plan 2040 could result in an incremental increase in new development that could incrementally alter scenic resources and natural features within the Planning Area or alter views of scenic resources and natural features within the immediate Planning Area, as well as views of the open waters of the San Francisco Bay and land masses beyond the open waters, as seen from streets and paths,

special vantage points, and views from private properties. However, compliance with General Plan 2040 policies and programs, and adherence to development and design standards in the Tiburon Municipal Code would ensure that future development projects are appropriately designed in terms of potential aesthetic impacts. At the programmatic level, aesthetic impacts to views would be less than significant. Consistent with the General Plan 2040 policies, individual development projects would be required to undergo project-specific environmental review, which may require additional site specific or project specific measures to reduce any potential impacts and would ensure that impacts remain ***less than significant***.

Mitigation Measures

None Required

Impact 3.1-2 **Implementation of the General Plan Update would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway.**

There are currently no designated State Scenic Highways or National Scenic Byways within the Planning Area. However, the entire stretch of State Route 1 and sections of U.S. 101 running through Marin County, and within a mile of the Planning Area, are eligible to be a State Scenic Highway. The criteria for official designation and eligibility includes the scenic quality of the landscape, how much of the natural landscape can be seen by travelers, and to the extent to which development intrudes upon the traveler's enjoyment of the view. The Planning Area is visible from both roadway segments.

There is no proposed development within the eligible section of U.S. 101 nearest to the Town; as such, implementation of the General Plan 2040 would not result in any impact to trees, rock outcroppings, or historic buildings within an eligible State Scenic Highway.

Furthermore, as discussed under Impact 3.1-1, all residential, mixed use, commercial, and community development under the General Plan 2040 would be subject to development and design standards for each zoning district as well as any other sections of the Tiburon Municipal Code that protect scenic resources, thereby minimizing potential impacts to existing views that can be seen from U.S. 101 outside of the Planning Area, an eligible State Highway. For example, as the Town receives development applications for subsequent development under the General Plan 2040, those applications will be reviewed by the Town for compliance with the Tiburon Municipal Code Chapter 15A (Trees), which protects certain species and sizes of trees, in addition to dedicated trees of special significance to the Town, on private property, and all trees and shrubs on Town property. The Tiburon Municipal Code safeguards these trees against removal, alteration, and damage, without first having obtained a tree removal or alteration permit from the Town.

In conclusion, development envisioned by the General Plan 2040 does not propose development within a designated State Scenic Highway or eligible State Scenic Highway; as such, implementation of the General Plan 2040 would not result in any impact to trees, rock

outcroppings, or historic buildings within an eligible State Scenic Highway. Therefore, ***no impact*** would occur.

Mitigation Measures

None required.

Impact 3.1-3 **Development facilitated by the General Plan Update would not substantially degrade the existing visual character or quality of public views in non-urbanized areas. (Public views are those that are experienced from publicly accessible vantage point).**

The CEQA definition for an "Urbanized area" means a central city or a group of contiguous cities with a population of 50,000 or more, together with adjacent densely populated areas having a population density of at least 1,000 persons per square mile. In addition, to be considered an Urbanized area according to CEQA, projects must also be within the boundary of a map prepared by the U.S. Bureau of the Census which designates the area as urbanized area. The Census Bureau identifies two types of urban areas: (1) Urbanized Areas (UAs) of 50,000 or more people; and (2) Urban Clusters (UCs) of at least 2,500 and less than 50,000 people. With an approximate population of 8,956 Tiburon Residents[8] in 2022, the Town is considered a non-urbanized area.

Publicly accessible vantage points include public parks and public open space shown in Figure 3.1-2. As described under Impacts 3.1-1 and 3.1-2, future development envisioned by the General Plan 2040 could result in an incremental increase in new residential, mixed use, commercial, and community development that could incrementally alter scenic resources and natural features within the urbanized portions of the Planning Area, thereby incrementally altering the quality of public views from publicly accessible vantage points within public parks and public open space. However, development would be limited to vacant and/or underutilized existing parcels, redevelopment of currently developed parcels, and other infill development. These aforementioned areas occur within the fabric of already developed areas throughout the Town. Accordingly, views from within public parks and public open space would not be substantially altered. Additionally, compliance with General Plan 2040 policies and programs described under Impacts 3.1-1 and 3.1-2, and adherence to development and design standards in the Tiburon Municipal Code described under Impacts 3.1-1 and 3.1-2, would ensure that future development projects within the urbanized areas are cohesive, appropriately designed in terms of potential aesthetic impacts, and reflect the character of the Town. At the programmatic level, aesthetic impacts to the quality of public views in non-urbanized areas would less than significant. Consistent with the General Plan 2040 policies, individual development projects within urbanized areas would be required to

[8] California Department of Finance. May 2022. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2020-2022. Available: https://dof.ca.gov/forecasting/demographics/estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2022/. Accessed: March 13, 2023.

undergo project-specific environmental review, which may require additional site specific or project specific measures to reduce any potential impacts to the quality of public views in non-urbanized areas and would ensure that impacts remain ***less than significant***.

Mitigation Measures

None required.

Impact 3.1-4 **Implementation of the General Plan Update would not substantially conflict with applicable zoning and other regulations governing scenic quality in urbanized areas.**

The Town is located in a non-urbanized area. Future development accommodated under the General Plan 2040 would result in additional development throughout the Town. This development would be located along the Town's waterfront areas and would be limited to vacant and/or underutilized existing parcels, redevelopment of currently developed parcels, and other infill development, and would occur within the urbanized portions of the Town. Any future development that is proposed within the Town will need to demonstrate consistency with the General Plan 2040 during the design review process.

As discussed under Impact 3.1-1, as the Town receives development applications for subsequent development under the General Plan 2040, those applications will be reviewed by the Town for compliance with the policies and programs of the General Plan 2040 related to scenic quality in urbanized areas, including view corridors, scenic resources, and natural features. In addition, the Tiburon Municipal Code, which implements the General Plan 2040, would be reviewed at the time that development applications are received. For example, development applications would be subject to the development and design standards for each zoning district as well as any other sections of the Tiburon Municipal Code that govern scenic quality in urbanized areas. For example, Chapter 15 establishes that trees must not unreasonably obstruct views from or sunlight reaching other property, and outlines criteria for determining unreasonable obstruction and appropriate restorative action. Section 16-30.040 establishes height limits for fences and walls to protect privacy and views, and Section 16-30.050 establishes height limits for buildings and structures to protect privacy and views. For projects that require design review, the Design Review Board will review site design, building placement, and building height to ensure that the development is appropriately designed and located to minimize visual impacts to adjacent properties and the general public. Potential issues related to view obstruction would be addressed, in accordance with Section 16-52.020 (Site Plan and Architectural Review), thereby reducing impacts to scenic vistas. It is also noted that new buildings in the Planning Area would be no taller than three stories.

In conclusion, the General Plan 2040 could result in an incremental increase in new residential and non-residential development that could potentially conflict with applicable zoning and other regulations governing scenic quality in urbanized areas. However,

compliance with General Plan 2040 policies and programs, and adherence to development and design standards in the Tiburon Municipal Code, would ensure that impacts remain ***less than significant***.

Mitigation Measures

None required.

Impact 3.1-5 **Development facilitated by the General Plan Update would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.**

Nighttime illumination and glare impacts are effects of a project's exterior lighting upon adjoining uses and areas. Light and glare impacts are determined through a comparison of existing light sources with proposed lighting plans or policies. Urban land uses on the Town's waterfront areas are the main source of daytime and nighttime light and glare. The hillsides are characterized by less intense development and generally have lower levels of ambient nighttime lighting and daytime glare.

Development accommodated under the General Plan 2040 would result in additional development throughout the Town, including along the waterfront areas. The potential growth in residential and non-residential uses would be vacant and/or underutilized existing parcels, redevelopment of currently developed parcels, and other infill development, and would occur within the urbanized portions of the Town; however, the new development would create new sources of light and glare within the Planning Area, contributing to increased ambient nighttime lighting conditions with potential effects to nighttime waterfront views. Specific sources of lighting would include exterior light fixtures, interior lighting, signage, and headlights from motor vehicles. Specific sources of glare would include reflective building materials and motor vehicle surfaces, including windows.

The General Plan 2040 includes the following policies and programs that pertain to light and/or glare:

> Policy LU-8 (Outdoor Lighting): Allow outdoor lighting for safety purposes but limit excessive light spillover and glare.
>
> Program LU-k (Outdoor Lighting): Review all development proposals and infrastructure projects in accordance with the Town's Lighting Ordinance to minimize off-site and night sky impacts of outdoor lighting.
>
> Policy M-22 (Streetlights): Install streetlights only at intersections or where required for safety purposes. Light sources shall be of a warm, subdued nature and should be down-lights and/or properly shielded.
>
> Policy M-49 (Seating at Bus Stops): The Town supports the installation and maintenance of attractive, covered, unobtrusively lighted seating areas at all bus stops along Tiburon Boulevard and will work with Golden Gate Transit, Marin Transit,

and the Transportation Authority of Marin (TAM) to provide them. The Town strongly discourages the placement of commercial advertising on public bus shelters.

Compliance with these policies and programs would ensure that light and glare from future development (including development of residential uses, commercial uses, and community uses) is reduced, minimized in certain circumstances, and is consistent with the Town's Lighting Ordinance to minimize off-site and night sky impacts of outdoor lighting.

As the Town receives development applications for subsequent development under the General Plan 2040, those applications will be reviewed by the Town for compliance with the Tiburon Municipal Code, which includes standards for exterior lighting, as well as a review of potential glare impacts in the design review process. For projects that require design review, the Design Review Board will review exterior lighting to ensure that the lighting is appropriately designed and located to minimize visual impacts to adjacent properties and the general public. Potential issues related to glare would be addressed, in accordance with Section 16-52.020 (Site Plan and Architectural Review), thereby reducing daytime glare and nighttime lighting impacts. Projects for which signs are proposed would be reviewed for compliance with Chapter 16a (Signs) of the Tiburon Municipal Code, which includes standards for internal illumination, external illumination, and illumination control. Projects requesting parking lot lighting would be reviewed for compliance with Section 16-32.080 of the Tiburon Municipal Code, which requires that glare shall be shielded from other properties.

In conclusion, development envisioned by the General Plan 2040 could result in an incremental increase in new residential development that could potentially increase daytime glare and nighttime lighting within the Planning Area, resulting in increased ambient nighttime lighting conditions with potential effects to nighttime waterfront views. However, compliance with development and design standards in the Tiburon Municipal Code, including Section 16-52.020 (Site Plan and Architectural Review), Chapter 16a (Signs), and Section 16-30.070 (Lighting), would ensure that impacts remain ***less than significant***.

Mitigation Measures

None Required

Impact 3.1-6: **Development facilitated by the General Plan Update, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to aesthetics.**

The geographic context for analysis of cumulative impacts related to aesthetics includes the unincorporated lands surrounding the Planning Area. In general, potential visual impacts take in the immediate surroundings in an urbanized area; thus, the analysis of cumulative aesthetic impacts focuses on areas that share a viewshed with the Planning Area. This analysis evaluates whether impacts of the General Plan 2040, together with impacts of cumulative development, would result in a cumulatively significant impact with respect to

aesthetics. This analysis then considers whether incremental contribution of the impacts associated with implementation of the General Plan 2040 would be significant. Both conditions must apply for cumulative effects to rise to the level of significance.

Cumulative development with unincorporated Marin County is identified in the Marin Countywide Plan Update Final EIR.[9] Cumulative development would be required to comply with the overall land use vision, design review regulations and policies in local and regional plans, including the Marin Countywide Plan and Marin County Development Code to ensure that aesthetic impacts are less than significant. Similarly, potential cumulative aesthetic impacts to eligible scenic highways would be reduced to below a level of significance through participation in the State Scenic Highway program and local ordinances and policies. Cumulative projects within unincorporated Marin County, including the community of Marin City, would be required to comply with applicable Marin Countywide Plan policies and programs and adhere to development and design standards in the Marin County Code that address aesthetics, including lighting and glare, the alteration of scenic resources and natural features, the alteration of views of scenic resources and natural features, and the alteration of views of the open waters of the San Francisco Bay, Richardson Bay, and land masses beyond the open waters, as seen from public or special vantage points. For these reasons, cumulative impacts to aesthetics, State Scenic Highways, or nighttime lighting and daytime glare would be ***less than significant***.

Moreover, the General Plan 2040's incremental contribution to less than significant cumulative impacts would not be significant. Development resulting from buildout of the General Plan 2040 is limited and will be subject to both proven continuing policies and enhanced policies to reduce aesthetic impacts.

As discussed under Impacts 3.1-1 through 3.1-5, development anticipated under the General Plan 2040 would be limited to vacant and/or underutilized existing parcels, redevelopment of currently developed parcels, and other infill development, and would occur within the fabric of developed areas throughout the Town. To ensure a less-than-significant contribution to cumulative impacts, development consistent with the General Plan 2040 will be required to implement all applicable General Plan 2040 policies during the design review process. As the Town receives development applications for subsequent development under the General Plan 2040, those applications will be reviewed by the Town of Tiburon for compliance with the policies and programs of the General Plan 2040 related to view corridors, scenic resources, and natural features. Consistency with the Town's Municipal Code, which implements the Town's General Plan 2040, would be required during the design review process to ensure that projects comply with all policies designed to mitigation visual impacts, tree protection standards, and standards to minimize light and glare. Therefore, the

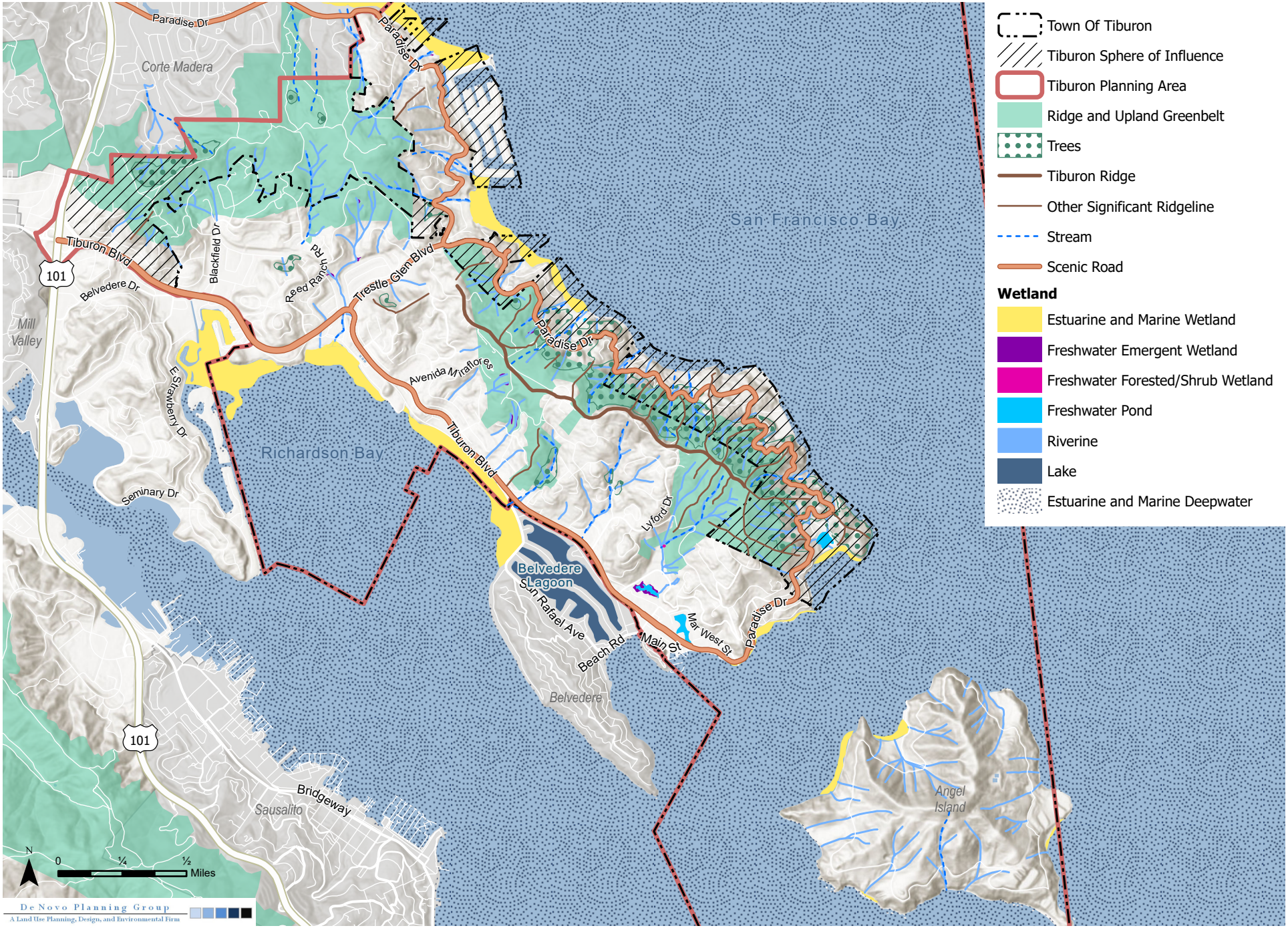
[9] County of Marin. Community Development Department. 2007. Marin Countywide Plan Update Final Environmental Impact Report. November.

General Plan 2040's contribution to cumulative impacts would be considered ***less than significant***.

Mitigation Measures

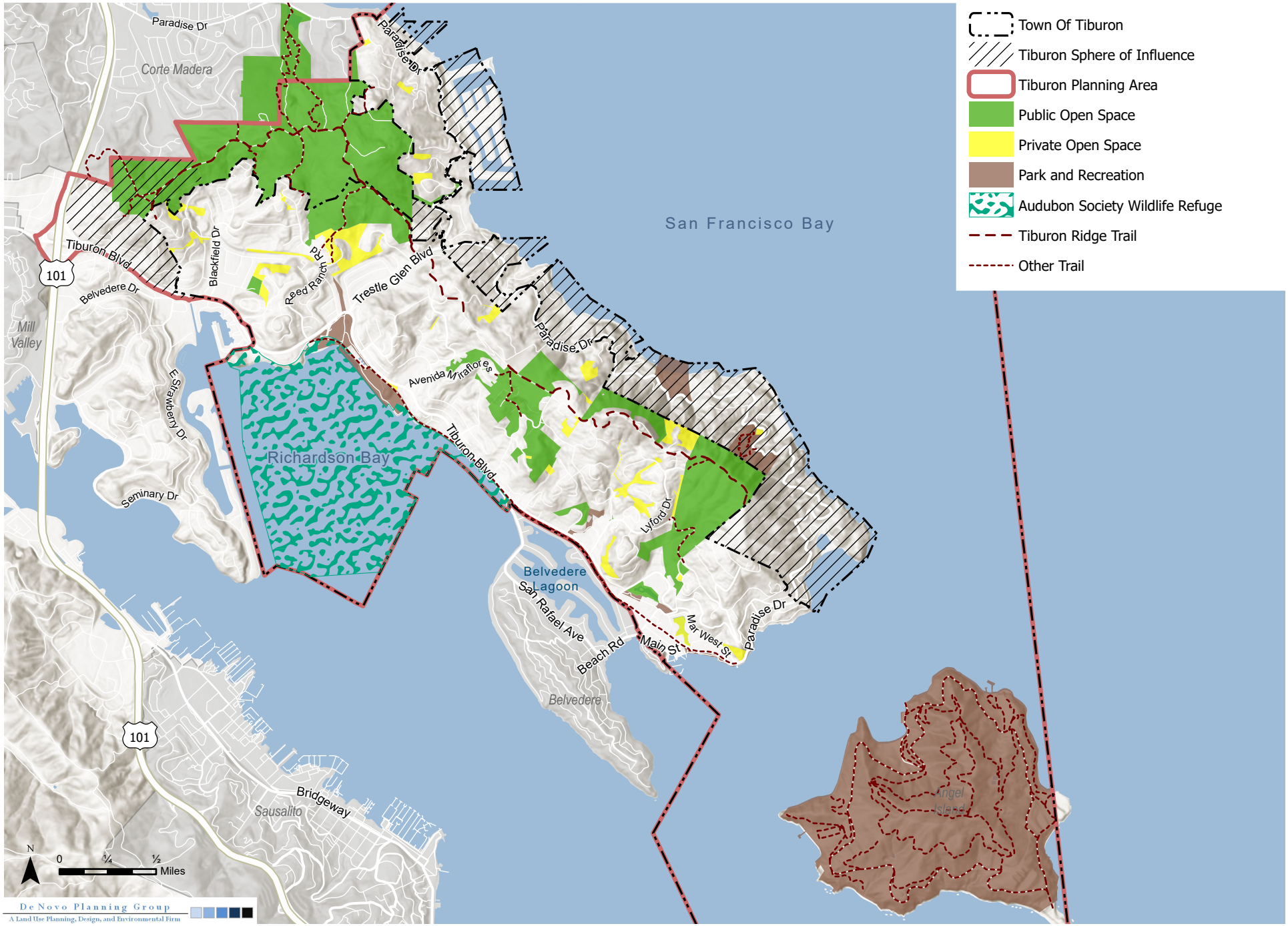
None Required

Figure 3.1-1. Visual and Scenic Characteristics



Sources: ArcGIS Online World Hillshade Map Service; Marin County GIS; National Wetlands Inventory. Map date: February 2, 2023.

Figure 3.1-2. Open Space Resources



Sources: ArcGIS Online World Hillshade Map Service; Marin County GIS. Map date: February 2, 2023.

3.2 AIR QUALITY

This section of the Draft EIR (DEIR) describes the regional air quality, current attainment status of the air basin, local sensitive receptors, emission sources, and impacts that are likely to result from Project implementation. There were no comments received during the public review period for the NOP related to air quality.

Greenhouse gas (GHG) emissions are discussed in Section 3.7, Greenhouse Gas Emissions.

The following resources were used to inform and support this section:

- Town of Tiburon General Plan;
- Bay Area Air Quality Management District (BAAQMD) *Identifying Areas with Cumulative Impacts from Air Pollution in the San Francisco Bay Area* document;
- BAAQMD *Final 2017 Clean Air Plan*;
- BAAQMD District's Air Quality Standards and Attainment Status website;
- California Air Resource Board's (CARB) *ARB Air Quality and Land Use Handbook: A Community Health Perspective*;
- CARB California Ambient Air Quality Standards;
- CARB iADAM: Air Quality Statistics database;
- Traffic modeling and analysis prepared by GHD (traffic consultant).

3.2.1 EXISTING SETTING

San Francisco Bay Area Air Basin

The Town is located within the San Francisco Bay Area Air Basin (SFBAAB or Air Basin). The Air Basin encompasses approximately 5,600 square miles and includes all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa counties, and portions of southwestern Solano and southern Sonoma counties. The Air Basin is characterized by a large, shallow basin surrounded by coastal mountain ranges tapering into sheltered inland valleys. The combined climatic and topographic factors result in increased potential for the accumulation of air pollutants in the inland valleys and reduced potential for buildup of air pollutants along the coast. The Air Basin is bounded by the Pacific Ocean to the west and includes complex terrain consisting of coastal mountain ranges, inland valleys, and bays.

Topography

The topography of the SFBAAB is characterized by complex terrain, consisting of coastal mountain ranges, inland valleys, and bays. This complex terrain, especially the higher elevations, distorts the normal wind flow patterns in the SFBAAB. The greatest distortion

occurs when low-level inversions are present and the air beneath the inversion flows independently of air above the inversion, a condition that is common in the summertime.

The only major break in California's Coast Range occurs in the SFBAAB. Here the Coast Range splits into western and eastern ranges. Between the two ranges lies San Francisco Bay. 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 SFBAAB and the Central Valley.

Climate

The SFBAAB is characterized by complex terrain, consisting of coastal mountain ranges, inland valleys, and bays, which distort normal wind flow patterns. Climate of the SFBAAB is determined largely by a high pressure system, as discussed below. Within the Town, temperatures range from an average low of 47 degrees to an average high of 87 degrees.

High Pressure Cell

During the summer, the large-scale meteorological condition that dominates the West Coast is a semi-permanent high pressure cell centered over the northeastern portion of the Pacific Ocean. This high pressure cell keeps storms from affecting the California coast. Hence, the SFBAAB experiences little precipitation in the summer months. Winds tend to blow on shore out of the north/northwest.

The steady northwesterly flow induces upwelling of cold water from below. This upwelling produces a band of cold water off the California coast. When air approaches the California coast, already cool and moisture-laden from its long journey over the Pacific, it is further cooled as it crosses this bank of cold water. This cooling often produces condensation resulting in a high incidence of fog and stratus clouds along the Northern California coast in the summer.

Generally, in the winter, the Pacific high-pressure cell weakens and shifts southward, winds tend to flow offshore, upwelling ceases, and storms occur. During the winter rainy periods, inversions (layers of warmer air over colder air; see below) are weak or nonexistent, winds are usually moderate, and air pollution potential is low. The Pacific high pressure cell does periodically become dominant, bringing strong inversions, light winds, and high pollution potential.

Wind Patterns

During the summer, winds flowing from the northwest are drawn inland through the Golden Gate and over the lower portions of the San Francisco Peninsula. Immediately south of Mount Tamalpais, the northwesterly winds accelerate considerably and come more directly from the west as they stream through the Golden Gate. This channeling of wind through the Golden Gate produces a jet that sweeps eastward and splits off to the northwest toward Richmond and to the southwest toward San Jose when it meets the East Bay hills.

Wind speeds may be strong locally in areas where air is channeled through a narrow opening, such as the Carquinez Strait, the Golden Gate, or the San Bruno gap. For example, the average wind speed at San Francisco International Airport in July is about 17 knots (from 3 p.m. to 4 p.m.), compared with only 7 knots at San Jose and less than 6 knots at the Farallon Islands.

The air flowing in from the coast to the Central Valley, called the sea breeze, begins developing at or near ground level along the coast in late morning or early afternoon. As the day progresses, the sea breeze layer deepens and increases in velocity while spreading inland. The depth of the sea breeze depends in large part upon the height and strength of the inversion. If the inversion is low and strong, and hence stable, the flow of the sea breeze will be inhibited, and stagnant conditions are likely to result.

In the winter, the SFBAAB frequently experiences stormy conditions with moderate to strong winds, as well as periods of stagnation with very light winds. Winter stagnation episodes are characterized by nighttime drainage flows in coastal valleys. Drainage is a reversal of the usual daytime air-flow patterns; air moves from the Central Valley toward the coast and back down toward the Bay from the smaller valleys within the SFBAAB.

Temperature

Summertime temperatures in the SFBAAB are determined in large part by the effect of differential heating between land and water surfaces. Because land tends to heat up and cool off more quickly than water, a large-scale gradient (differential) in temperature is often created between the coast and the Central Valley, and small-scale local gradients are often produced along the shorelines of the ocean and bays. The temperature gradient near the ocean is also exaggerated, especially in summer, because of the upwelling of cold ocean bottom water along the coast. On summer afternoons the temperatures at the coast can be 35°F cooler than temperatures 15 to 20 miles inland. At night this contrast usually decreases to less than 10°.

In the winter, the relationship of minimum and maximum temperatures is reversed. During the daytime the temperature contrast between the coast and inland areas is small, whereas at night the variation in temperature is large.

Precipitation

The SFBAAB is characterized by moderately wet winters and dry summers. Winter rains account for about 75 percent of the average annual rainfall. The amount of annual precipitation can vary greatly from one part of the SFBAAB to another even within short distances. In general, total annual rainfall can reach 40 inches in the mountains, but it is often less than 16 inches in sheltered valleys.

During rainy periods, ventilation (rapid horizontal movement of air and injection of cleaner air) and vertical mixing are usually high, and thus pollution levels tend to be low. However,

frequent dry periods do occur during the winter where mixing and ventilation are low and pollutant levels build up.

Air Pollution Potential

The potential for high pollutant concentrations developing at a given location depends upon the quantity of pollutants emitted into the atmosphere in the surrounding area or upwind, and the ability of the atmosphere to disperse the contaminated air. The topographic and climatological factors discussed above influence the atmospheric pollution potential of an area. Atmospheric pollution potential, as the term is used here, is independent of the location of emission sources and is instead a function of factors described below.

Wind Circulation

Low wind speed contributes to the buildup of air pollution because it allows more pollutants to be emitted into the air mass per unit of time. Light winds occur most frequently during periods of low sun (fall and winter, and early morning) and at night. These are also periods when air pollutant emissions from some sources are at their peak, namely, commute traffic (early morning) and wood burning appliances (nighttime). The problem can be compounded in valleys, when weak flows carry the pollutants upvalley during the day, and cold air drainage flows move the air mass downvalley at night. Such restricted movement of trapped air provides little opportunity for ventilation and leads to buildup of pollutants to potentially unhealthful levels.

Inversions

An inversion is a layer of warmer air over a layer of cooler air. Inversions affect air quality conditions significantly because they influence the mixing depth (i.e., the vertical depth in the atmosphere available for diluting air contaminants near the ground). The highest air pollutant concentrations in the SFBAAB generally occur during inversions.

There are two types of inversions that occur regularly in the SFBAAB. One is more common in the summer and fall, while the other is most common during the winter. The frequent occurrence of elevated temperature inversions in summer and fall months acts to cap the mixing depth, limiting the depth of air available for dilution. Elevated inversions are caused by subsiding air from the subtropical high pressure zone, and from the cool marine air layer that is drawn into the SFBAAB by the heated low pressure region in the Central Valley.

The inversions typical of winter, called radiation inversions, are formed as heat quickly radiates from the earth's surface after sunset, causing the air in contact with it to rapidly cool. Radiation inversions are strongest on clear, low-wind, cold winter nights, allowing the build-up of such pollutants as carbon monoxide and particulate matter. When wind speeds are low, there is little mechanical turbulence to mix the air, resulting in a layer of warm air over a layer of cooler air next to the ground. Mixing depths under these conditions can be as shallow as 50 to 100 meters, particularly in rural areas. Urban areas usually have deeper

minimum mixing layers because of heat island effects and increased surface roughness. During radiation inversions downwind transport is slow, the mixing depths are shallow, and turbulence is minimal, all factors which contribute to ozone formation.

Although each type of inversion is most common during a specific season, either inversion mechanism can occur at any time of the year. Sometimes both occur simultaneously. Moreover, the characteristics of an inversion often change throughout the course of a day. The terrain of the SFBAAB also induces significant variations among subregions.

Solar Radiation

The frequency of hot, sunny days during the summer months in the SFBAAB is another important factor that affects air pollution potential. It is at the higher temperatures that ozone is formed. In the presence of ultraviolet sunlight and warm temperatures, reactive organic gases and oxides of nitrogen react to form secondary photochemical pollutants, including ozone. Because temperatures in many of the SFBAAB inland valleys are so much higher than near the coast, the inland areas are especially prone to photochemical air pollution.

In late fall and winter, solar angles are low, resulting in insufficient ultraviolet light and warming of the atmosphere to drive the photochemical reactions. Ozone concentrations do not reach significant levels in the SFBAAB during these seasons.

Sheltered Terrain

The hills and mountains in the SFBAAB contribute to the high pollution potential of some areas. During the day, or at night during windy conditions, areas in the lee sides of mountains are sheltered from the prevailing winds, thereby reducing turbulence and downwind transport. At night, when wind speeds are low, the upper atmospheric layers are often decoupled from the surface layers during radiation conditions. If elevated terrain is present, it will tend to block pollutant transport in that direction. Elevated terrain also can create a recirculation pattern by inducing upvalley air flows during the day and reverse downvalley flows during the night, allowing little inflow of fresh air.

The areas having the highest air pollution potential tend to be those that experience the highest temperatures in the summer and the lowest temperatures in the winter. The coastal areas are exposed to the prevailing marine air, creating cooler temperatures in the summer, warmer temperatures in winter, and stratus clouds all year. The inland valleys are sheltered from the marine air and experience hotter summers and colder winters. Thus, the topography of the inland valleys creates conditions conducive to high air pollution potential.

Pollution Potential Related to Emissions

Although air pollution potential is strongly influenced by climate and topography, the air pollution that occurs in a location also depends upon the amount of air pollutant emissions in the surrounding area or transported from more distant places. Air pollutant emissions generally are highest in areas that have high population densities, high motor vehicle use,

and/or industrialization. These contaminants created by photochemical processes in the atmosphere, such as ozone, may result in high concentrations many miles downwind from the sources of their precursor chemicals.

Criteria Air Pollutants

The U.S. Environmental Protection Agency (U.S. EPA) uses six "criteria pollutants" as indicators of air quality and has established for each criteria pollutant a maximum concentration above which adverse effects on human health may occur. These threshold concentrations are called National Ambient Air Quality Standards (NAAQS). The CARB has monitored the gaseous criteria pollutants carbon monoxide, nitrogen dioxide, ozone, and sulfur dioxide since its inception in 1968. Monitoring is performed to demonstrate attainment or non-attainment of national and state ambient air quality standards.

Each criteria pollutant and its associated health effects is described below.

Ozone (O_3) is a photochemical oxidant and the major component of smog. While O_3 in the upper atmosphere is beneficial to life by shielding the earth from harmful ultraviolet radiation from the sun, high concentrations of O_3 at ground level are a major health and environmental concern. O_3 is not emitted directly into the air but is formed through complex chemical reactions between precursor emissions of volatile organic compounds (VOC) and oxides of nitrogen (NO_x) in the presence of sunlight. These reactions are stimulated by sunlight and temperature so that peak O_3 levels occur typically during the warmer times of the year. Both VOCs and NO_x are emitted by transportation and industrial sources. VOCs are emitted from sources as diverse as autos, chemical manufacturing, dry cleaners, paint shops, and other sources using solvents.

The reactivity of O_3 causes health problems because it damages lung tissue, reduces lung function and sensitizes the lungs to other irritants. Scientific evidence indicates that ambient levels of O_3 not only affect people with impaired respiratory systems, such as asthmatics, but healthy adults and children as well. Exposure to O_3 for several hours at relatively low concentrations has been found to significantly reduce lung function and induce respiratory inflammation in normal, healthy people during exercise. This decrease in lung function generally is accompanied by symptoms including chest pain, coughing, sneezing and pulmonary congestion.

Carbon monoxide (CO) is a colorless, odorless, and poisonous gas produced by incomplete burning of carbon in fuels. When CO enters the bloodstream, it reduces the delivery of oxygen to the body's organs and tissues. Health threats are most serious for those who suffer from cardiovascular disease, particularly those with angina or peripheral vascular disease. Exposure to elevated CO levels can cause impairment of visual perception, manual dexterity, learning ability, and performance of complex tasks.

Nitrogen dioxide (NO_2) is a brownish, highly reactive gas that is present in all urban atmospheres. NO_2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections. Nitrogen oxides are an important precursor both to O_3 and acid rain and may affect both terrestrial and aquatic ecosystems. The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant NO_x. NO_x plays a major role, together with VOCs, in the atmospheric reactions that produce O_3. NO_x forms when fuel is burned at high temperatures. The two major emission sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

Sulfur dioxide (SO_2) affects breathing and may aggravate existing respiratory and cardiovascular disease in high doses. Sensitive populations include asthmatics, individuals with bronchitis or emphysema, children, and the elderly. SO_2 is also a primary contributor to acid deposition, or acid rain, which causes acidification of lakes and streams and can damage trees, crops, historic buildings, and statues. In addition, sulfur compounds in the air contribute to visibility impairment in large parts of the country. This is especially noticeable in national parks. Ambient SO_2 results largely from stationary sources such as coal and oil combustion, steel mills, refineries, pulp and paper mills, and from nonferrous smelters.

Particulate matter (PM) is not a single pollutant, but rather is a mixture of many chemical species. It is a complex mixture of solids and aerosols composed of small droplets of liquid, dry solid fragments, and solid cores with liquid coatings. Particles vary widely in size, shape and chemical composition, and may contain inorganic ions, metallic compounds, elemental carbon, organic compounds, and compounds from the earth's crust. Particles are defined by their diameter for air quality regulatory purposes. PM includes dust, dirt, soot, smoke, and liquid droplets directly emitted into the air by sources such as factories, power plants, cars, construction activity, fires and natural windblown dust. Particles formed in the atmosphere by condensation or the transformation of emitted gases such as SO_2 and VOCs are also considered particulate matter.

Based on studies of human populations exposed to high concentrations of particles (sometimes in the presence of SO_2) and laboratory studies of animals and humans, there are major effects of concern for human health. These include effects on breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular disease, alterations in the body's defense systems against foreign materials, damage to lung tissue, carcinogenesis, and premature death.

Respirable particulate matter (PM_{10}) consists of small particles, less than 10 microns in diameter, of dust, smoke, or droplets of liquid which penetrate the human respiratory system and cause irritation by themselves, or in combination with other gases. Particulate matter is caused primarily by dust from grading and excavation activities, from agricultural uses (as created by soil preparation activities, fertilizer and pesticide spraying, weed burning, and animal husbandry), and from motor vehicles, particularly diesel-powered vehicles. PM_{10}

causes a greater health risk than larger particles, since these small particles can more easily penetrate the defenses of the human respiratory system.

Fine particulate matter ($PM_{2.5}$) consists of small particles, which are less than 2.5 microns in size. Similar to PM_{10}, these particles are primarily the result of combustion in motor vehicles, particularly diesel engines, as well as from industrial sources and residential/agricultural activities such as burning. It is also formed through the reaction of other pollutants. As with PM_{10}, these particulates can increase the chance of respiratory disease, and cause lung damage and cancer.

The major subgroups of the population that appear to be most sensitive to the effects of particulate matter include individuals with chronic obstructive pulmonary or cardiovascular disease or influenza, asthmatics, the elderly, and children. Particulate matter also soils and damages materials and is a major cause of visibility impairment.

Lead (Pb) exposure can occur through multiple pathways, including inhalation of air and ingestion of Pb in food, water, soil, or dust. Excessive Pb exposure can cause seizures, mental retardation, and/or behavioral disorders. Low doses of Pb can lead to central nervous system damage. Recent studies have also shown that Pb may be a factor in high blood pressure and subsequent heart disease.

3.2.2 AMBIENT AIR QUALITY STANDARDS

Both the U.S. EPA and the CARB have established ambient air quality standards for common pollutants. These ambient air quality standards represent safe levels of contaminants that avoid specific adverse health effects associated with each pollutant.

The federal and California state ambient air quality standards are summarized in **Table 3.2-1** for important pollutants. The federal and state ambient standards were developed independently, although both processes attempted to avoid health-related effects. As a result, the federal and state standards differ in some cases. In general, the California state standards are more stringent. This is particularly true for ozone, $PM_{2.5}$, and PM_{10}.

The U.S. Environmental Protection Agency established new national air quality standards for ground-level ozone and for fine particulate matter in 1997. The 1-hour ozone standard was phased out and replaced by an 8-hour standard of 0.075 PPM. Implementation of the 8-hour standard was delayed by litigation but was determined to be valid and enforceable by the U.S. Supreme Court in a decision issued in February of 2001. In April 2005, the Air Resources Board approved a new eight-hour standard of 0.070 ppm and retained the one-hour ozone standard of 0.09 after an extensive review of the scientific literature. The U.S. EPA signed a final rule for the Federal ozone eight-hour standard of 0.070 ppm on October 1, 2015, and was effective as of December 28, 2015.

TABLE 3.2-1: FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

POLLUTANT	AVERAGING TIME	FEDERAL PRIMARY STANDARD	STATE STANDARD
OZONE	1-Hour 8-Hour	-- 0.070 ppm	0.09 ppm 0.070 ppm
CARBON MONOXIDE	8-Hour 1-Hour	9.0 ppm 35.0 ppm	9.0 ppm 20.0 ppm
NITROGEN DIOXIDE	Annual 1-Hour	0.053 ppm 0.100 ppm	0.03 ppm 0.18 ppm
SULFUR DIOXIDE	Annual 24-Hour 1-Hour	0.03 ppm 0.14 ppm 0.075 ppm	-- 0.04 ppm 0.25 ppm
PM_{10}	Annual 24-Hour	-- 150 ug/m^3	20 ug/m^3 50 ug/m^3
$PM_{2.5}$	Annual 24-Hour	12 ug/m^3 35 ug/m^3	12 ug/m^3 --
LEAD	30-Day Avg. 3-Month Avg.	-- 0.15 ug/m^3	1.5 ug/m^3 --

Notes: ppm = parts per million, µg/m^3 = Micrograms per Cubic Meter

Source: California Air Resources Board, 2020.

In 1997, new national standards for fine particulate matter diameter 2.5 microns or less ($PM_{2.5}$) were adopted for 24-hour and annual averaging periods. The current PM_{10} standards were to be retained, but the method and form for determining compliance with the standards were revised.

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are another group of pollutants of concern. TACs are injurious in small quantities and are regulated despite the absence of criteria documents. The identification, regulation and monitoring of TACs is relatively recent compared to that for criteria pollutants. Unlike criteria pollutants, TACs are regulated on the basis of risk rather than specification of safe levels of contamination.

Existing air quality concerns within the Planning Area is related to increases of regional criteria air pollutants (e.g., ozone and particulate matter), exposure to toxic air contaminants, odors, and increases in greenhouse gas emissions contributing to climate change. The primary source of ozone (smog) pollution is motor vehicles which account for 70 percent of the ozone in the region. Particulate matter is caused by dust, primarily dust generated from construction and grading activities, and smoke which is emitted from fireplaces, wood-burning stoves, and agricultural burning.

Attainment Status

In accordance with the California Clean Air Act (CCAA), the CARB is required to designate areas of the state as attainment, nonattainment, or unclassified with respect to applicable standards. An "attainment" designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A "nonattainment" designation indicates that a pollutant concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria.

Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An "unclassified" designation signifies that the data do not support either an attainment or nonattainment status. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The U.S. EPA designates areas for ozone, CO, and NO_2 as "does not meet the primary standards," "cannot be classified," or "better than national standards." For SO_2, areas are designated as "does not meet the primary standards," "does not meet the secondary standards," "cannot be classified," or "better than national standards." However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used.

Table 3.2-2 presents the state and federal standards and attainment status for the BAAQMD.

TABLE 3.2-2: STATE AND NATIONAL ATTAINMENT STATUS

POLLUTANT	AVERAGING TIME	CALIFORNIA STANDARDS[1]		NATIONAL STANDARDS[2]	
		CONCENTRATION	ATTAINMENT STATUS	PRIMARY	ATTAINMENT STATUS
OZONE	8 Hour	0.070 ppm (137µg/m^3)	Nonattainment[9]	0.070 ppm Primary same as secondary	Nonattainment[4]
	1 Hour	0.09 ppm (180 µg/m^3)	Nonattainment	--	See Footnote #5
CARBON MONOXIDE (CO)	8 Hour	9.0 ppm (10 mg/m^3)	Attainment	9 ppm (10 mg/m^3)	Attainment[6]
	1 Hour	20 ppm (23 mg/m^3)	Attainment	35 ppm (40 mg/m^3)	Attainment
NITROGEN DIOXIDE (NO_2)	1 Hour	0.18 ppm (339 µg/m^3)	Attainment	0.100 ppm See Footnote #11	See Footnote #11

POLLUTANT	AVERAGING TIME	CALIFORNIA STANDARDS[1]		NATIONAL STANDARDS[2]	
		CONCENTRATION	ATTAINMENT STATUS	PRIMARY	ATTAINMENT STATUS
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	--	0.053 ppm (100 µg/m^3)	Attainment
SULFUR DIOXIDE (SO_2)	24 Hour	0.04 ppm (105 µg/m^3)	Attainment	0.14 ppm (365 µg/m^3)	See Footnote #12
	1 Hour	0.25 ppm (655 µg/m^3)	Attainment	0.075 ppm (196 µg/m^3)	See Footnote #12
	Annual Arithmetic Mean	--	--	0.030 ppm (80 µg/m^3)	See Footnote #12
	Annual Arithmetic Mean	20 µg/m^3	Nonattainment[7]	--	--
RESPIRABLE PARTICULATE MATTER (PM_{10})	24 Hour	50 µg/m^3	Nonattainment	150 µg/m^3	Unclassified
	Annual Arithmetic Mean	12 µg/m^3	Nonattainment[7]	12 µg/m^3 See Footnote #15	Unclassified/ Attainment
FINE PARTICULATE MATTER ($PM_{2.5}$)	24 Hour	--	--	35 µg/m^3 See Footnote #10	Nonattainment
	24 Hour	25 µg/m^3	Attainment	--	--
LEAD	30 Day Average	1.5 µg/m^3	--	-	Attainment
	Calendar Quarter	-	--	1.5 µg/m^3	Attainment
SULFATES	Rolling 3 Month Average[14]	-	--	0.15 µg/m^3	See Footnote #14
HYDROGEN SULFIDE	1 Hour	0.03 ppm (42 µg/m^3	Unclassified	--	--
VINYL CHLORIDE	24 Hour	0.010 ppm (26 µg/m^3	No information available	--	--
VISIBILITY-REDUCING PARTICLE MATTER	8 Hour (10:00 to 18:00 PST)	See Footnote #8	Unclassified	--	--

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

1. *California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, suspended particulate matter - PM10, and visibility reducing particles are values that are not to be exceeded. The standards for sulfates, Lake Tahoe carbon monoxide, lead, hydrogen sulfide, and vinyl chloride are not to be equaled or exceeded. If the standard is for a 1-hour, 8-hour or 24-hour average (i.e., all standards except for lead and the PM10 annual standard), then some measurements may be excluded. In particular, measurements are excluded that ARB determines would occur less than*

POLLUTANT	AVERAGING TIME	CALIFORNIA STANDARDS[1]		NATIONAL STANDARDS[2]	
		CONCENTRATION	ATTAINMENT STATUS	PRIMARY	ATTAINMENT STATUS

once per year on the average. The Lake Tahoe CO standard is 6.0 ppm, a level one-half the national standard and two-thirds the state standard.

2. *National standards shown are the "primary standards" designed to protect public health. National standards other than for ozone, particulates and those based on annual averages are not to be exceeded more than once a year. The 1-hour ozone standard is attained if, during the most recent three-year period, the average number of days per year with maximum hourly concentrations above the standard is equal to or less than one. The 8-hour ozone standard is attained when the 3-year average of the 4th highest daily concentrations is 0.070 ppm (70 ppb) or less. The 24-hour PM10 standard is attained when the 3-year average of the 99th percentile of monitored concentrations is less than 150 µg/m^3. The 24-hour PM2.5 standard is attained when the 3-year average of 98th percentiles is less than 35 µg/m^3.*
   Except for the national particulate standards, annual standards are met if the annual average falls below the standard at every site. The national annual particulate standard for PM10 is met if the 3-year average falls below the standard at every site. The annual PM2.5 standard is met if the 3-year average of annual averages spatially averaged across officially designed clusters of sites falls below the standard.
3. *National air quality standards are set by US EPA at levels determined to be protective of public health with an adequate margin of safety.*
4. *On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm. An area will meet the standard if the fourth-highest maximum daily 8-hour ozone concentration per year, averaged over three years, is equal to or less than 0.070 ppm. EPA will make recommendations on attainment designations by October 1, 2016, and issue final designations October 1, 2017. Nonattainment areas will have until 2020 to late 2037 to meet the health standard, with attainment dates varying based on the ozone level in the area.*
5. *The national 1-hour ozone standard was revoked by U.S. EPA on June 15, 2005.*
6. *In April 1998, the Bay Area was redesignated to attainment for the national 8-hour carbon monoxide standard.*
7. *In June 2002, CARB established new annual standards for PM2.5 and PM10.*
8. *Statewide VRP Standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.*
9. *The 8-hour CA ozone standard was approved by the Air Resources Board on April 28, 2005, and became effective on May 17, 2006.*
10. *On January 9, 2013, EPA issued a final rule to determine that the Bay Area attains the 24-hour PM2.5 national standard. This EPA rule suspends key SIP requirements as long as monitoring data continues to show that the Bay Area attains the standard. Despite this EPA action, the Bay Area will continue to be designated as "non-attainment" for the national 24-hour PM2.5 standard until such time as the Air District submits a "redesignation request" and a "maintenance plan" to EPA, and EPA approves the proposed redesignation.*
11. *To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100ppm (effective January 22, 2010). The US Environmental Protection Agency (EPA) expects to make a designation for the Bay Area by the end of 2017.*
12. *On June 2, 2010, the U.S. EPA established a new 1-hour SO2 standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations. The existing 0.030 ppm annual and 0.14 ppm 24-hour SO2 NAAQS however must continue to be used until one year following U.S. EPA initial designations of the new 1-hour SO2 NAAQS. EPA expects to make designation for the Bay Area by the end of 2017.*
13. *ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure below which there are no adverse health effects determined.*
14. *National lead standard, rolling 3-month average: final rule signed October 15, 2008. Final designations effective December 31, 2011.*
15. *In December 2012, EPA strengthened the annual PM 2.5 National Ambient Air Quality Standards (NAAQS) from 15.0 to 12.0 micrograms per cubic meter (µg/m^3). In December 2014, EPA issued final area designations for the 2012 primary annual PM 2.5 NAAQS. Areas designated "unclassifiable/attainment" must continue to take steps to prevent their air quality from deteriorating to unhealthy levels. The effective date of this standard is April 15, 2015.*

Monitoring Data

The SFBAAB is composed of the counties of Santa Clara, San Mateo, San Francisco, Marin, Napa, Contra Costa, and Alameda, along with the southeast section of Sonoma and the southwest section of Solano counties. BAAQMD and CARB maintain numerous air quality monitoring sites throughout each County in the Air Basin to measure ozone, $PM_{2.5}$, and PM_{10}. It is important to note that the federal ozone 1-hour standard was revoked by the EPA and is no longer applicable for federal standards. Data obtained from the monitoring sites throughout the SFBAAB between 2019 and 2021 is summarized in **Tables 3.2-3 through 3.2-5**.

TABLE 3.2-3: SFBAAB AMBIENT AIR QUALITY MONITORING DATA SUMMARY - OZONE

YEAR	MAX. DAYS > STANDARD				1-HOUR OBSERVATIONS			8-HOUR AVERAGES				YEAR COVERAGE	
	STATE		NATIONAL		STATE		NAT'L	STATE		NATIONAL			
	1-HR	8-HR	1-HR	8-HR	MAX.	D.V.[1]	D.V.[2]	MAX.	D.V.[1]	MAX.	D.V.[2]	MIN	MAX
2021	5	10	0	10	0.113	0.10	0.103	0.086	0.085	0.086	0.071	25	100
2020	6	10	0	9	0.116	0.10	0.099	0.092	0.079	0.092	0.069	97	100
2019	6	9	0	9	0.106	0.10	0.104	0.086	0.080	0.085	0.073	75	100

Notes: All concentrations expressed in parts per million. The national 1-hour ozone standard was revoked in June 2005 and is no longer in effect. Statistics related to the revoked standard are shown in italics. D.V. [1] = State Designation Value. D.V. [2]= National Design Value.

Source: California Air Resources Board Air Pollution Summaries, Accessed February 2023.

TABLE 3.2-4: SFBAAB AMBIENT AIR QUALITY MONITORING DATA SUMMARY - $PM_{2.5}$

YEAR	EST. DAYS > NAT'L '06 STD.	ANNUAL AVERAGE		NAT'L ANN. STD. D.V.[1]	STATE ANN. D.V.[2]	NAT'L '06 STD. 98TH PERCENTILE	NAT'L '06 24-HR STD. D.V.[1]	HIGH 24-HR AVERAGE		YEAR COVERAGE	
		NAT'L	STATE					NAT'L	STATE	MIN.	MAX.
2021	2.0	10.9	10.9	10.3	13	24.8	35	45.0	45.0	19	100
2020	17.3	12.5	12.5	11.3	14	66.0	55	167.7	167.7	94	100
2019	1.1	9.4	9.4	11.7	14	20.6	48	35.9	35.9	93	100

Notes: All concentrations expressed in parts per million. State and national statistics may differ for the following reasons: State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers. State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria. D.V. [1] = State Designation Value. D.V. [2]= National Design Value

Source: California Air Resources Board Air Pollution Summaries, Accessed February 2023.

TABLE 3.2-5: SFBAAB AMBIENT AIR QUALITY MONITORING DATA SUMMARY - PM_{10}

YEAR	EST. DAYS > STD.		ANNUAL AVERAGE		3-YEAR AVERAGE		HIGH 24-HR AVERAGE		YEAR COVERAGE
	NAT'L	STATE	NAT'L	STATE	NAT'L	STATE	NAT'L	STATE	
2021	0	0	19.6	20.1	21	23	42.8	45.1	100
2020	2.9	23.0	24.6	23.3	21	23	165.4	167.0	99
2019	0	26.2	18.4	19.1	20	23	75.4	77.1	100

*Notes: The national annual average PM10 standard was revoked in December 2006 and is no longer in effect. An exceedance is not necessarily a violation. Statistics may include data that are related to an exceptional event. State and national statistics may differ for the following reasons: State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers. National statistics are based on standard conditions. State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria. * = there was insufficient (or no) data available to determine the value.*

Source: California Air Resources Board Air Pollution Summaries, Accessed February 2023.

Marin County Air Quality Monitoring

BAAQMD and CARB maintain four air quality monitoring sites in Marin County that collect data for ozone, PM_{10}, and $PM_{2.5}$ in recent years. Data was obtained from the nearest monitoring site to the Town, San Rafael (534 4th Street) monitoring site. monitoring station, between 2019 and 2021 is shown in **Table 3.2-6**.

TABLE 3.2-6: AMBIENT AIR QUALITY MONITORING DATA (SAN RAFAEL [534 4TH STREET])

POLLUTANT	CAL. PRIMARY STANDARD	FED. PRIMARY STANDARD	YEAR	MAX. CONCENTRATION	DAYS EXCEEDED STATE/FED STANDARD
Ozone (O_3) (1-hour)	0.09 ppm for 1 hour	N/A	2021 2020 2019	0.082 0.086 0.096	0 / 0 0 / 0 1 / 0
Ozone (O_3) (8-hour)	0.070 ppm for 8-hour	0.075 ppm for 8-hour	2021 2020 2019	0.066 0.064 0.080	0 / 0 0 / 0 1 / 1
Particulate Matter (PM_{10})	50 ug/m^3 for 24 hours	150 ug/m^3 for 24 hours	2021 2020 2019	30.0 118.0 33.0	0 / 0 6.1 / 0 * / 0
Fine Particulate Matter ($PM_{2.5}$)	N/A	35 ug/m^3 for 24 hours	2021 2020 2019	29.1 155.5 19.5	(N/A) / 0 (N/A) / 9.0 (N/A) / 0

** There was insufficient (or no) data available to determine the value.*

Source: California Air Resources Board Air Pollution Summaries, Accessed February 2023.

Major Emitters in Tiburon

The CARB maps major emitters and facilities throughout the state. No major emitters were identified by the CARB within the Planning Area. However, there are major emitters

(including refinery, electricity generation, and other combustible sources) that currently exist in the broader Bay Area region outside of the Planning Area.

Air pollutant emissions are generated in Tiburon by stationary and area-wide sources, such as space and water heating, landscape maintenance from leaf blowers and lawn mowers, consumer products, and mobile sources, primarily automobile traffic. None of the existing uses within Tiburon involve heavy industrial or manufacturing processes that would result in the release of toxic air emissions identified by the CARB. Overall, motor vehicles are the primary source of pollutants in the Planning Area.

Odors

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another.

It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air.

When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

Sensitive Receptors

A sensitive receptor is a location where human populations, especially children, seniors, and sick persons, are present and where there is a reasonable expectation of continuous human

exposure to pollutants. Examples of sensitive receptors include residences, hospitals and schools. It also includes long-term care hospitals, hospices, prisons, and dormitories or similar live-in housing.

Because the General Plan 2040 is a planning document that does not include exact locations, sizes, or land use type for any individual projects that will occur within the Town under the General Plan 2040, there are no specific sensitive locations identified with respect to the General Plan 2040. As a conservative estimate of impacts, sensitive receptors are anticipated to be located directly adjacent to new development.

Naturally Occurring Asbestos

The term asbestos is used to describe a variety of fibrous minerals that, when airborne, can result in serious human health effects. Naturally occurring asbestos is commonly associated with ultramafic rocks and serpentinite. Ultramafic rocks, such as dunite, periodotite, and pyroxenite are igneous rocks comprised largely of iron-magnesium minerals. As they are intrusive in nature, these rocks often undergo metamorphosis, prior to their being exposed on the Earth's surface. The metamorphic rock serpentinite is a common product of the alteration process. Naturally occurring asbestos is mapped in Marin County in six locations: Angel Island, Belvedere Island, Massa Hill, Fort Baker, the west peak of Mt. Tamalpais, and one unnamed occurrence. There are two naturally occurring asbestos site mapped within the Planning Area, Angel Island and Belvedere Island. Neither of these areas are planned for development with implementation of the General Plan 2040 and would not be impacted.

3.2.3 REGULATORY SETTING

Federal and State

Clean Air Act

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, Congress added several provisions, including nonattainment requirements for areas not meeting National AAQS and the Prevention of Significant Deterioration program. The 1990 amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: National AAQS for criteria air pollutants, hazardous air pollutant standards, State attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions. The EPA is responsible for administering the FCAA.

The California Clean Air Act (CCAA) was first signed into law in 1988. The CCAA provides a comprehensive framework for air quality planning and regulation, and spells out, in statute,

the State's air quality goals, planning and regulatory strategies, and performance. The CCAA requires all areas of the State to achieve and maintain the California AAQS by the earliest practical date. The California AAQS tend to be more restrictive than the National AAQS. The ARB is the agency responsible for administering the CCAA.

Federal Hazardous Air Pollutant Program

Title III of the FCAA requires the EPA to promulgate national emissions standards for hazardous air pollutants (NESHAPs). The NESHAP may differ for major sources than for area sources of HAPs (major sources are defined as stationary sources with potential to emit more than 10 tons per year [TPY] of any HAP or more than 25 TPY of any combination of HAPs; all other sources are considered area sources). The emissions standards are to be promulgated in two phases. In the first phase (1992–2000), the EPA developed technology-based emission standards designed to produce the maximum emission reduction achievable. These standards are generally referred to as requiring maximum available control technology (MACT). For area sources, the standards may be different, based on generally available control technology. In the second phase (2001–2008), the EPA is required to promulgate health risk–based emissions standards were deemed necessary to address risks remaining after implementation of the technology-based NESHAP standards. The FCAAA required the EPA to promulgate vehicle or fuel standards containing reasonable requirements that control toxic emissions, at a minimum to benzene and formaldehyde. Performance criteria were established to limit mobile-source emissions of toxics, including benzene, formaldehyde, and 1,3-butadiene. In addition, Section 219 required the use of reformulated gasoline in selected U.S. cities (those with the most severe ozone nonattainment conditions) to further reduce mobile-source emissions.

Transportation Conformity

Transportation conformity requirements were added to the FCAA in the 1990 amendments, and the EPA adopted implementing regulations in 1997. See §176 of the FCAA (42 U.S.C. §7506) and 40 CFR Part 93, Subpart A. Transportation conformity serves much the same purpose as general conformity: it ensures that transportation plans, transportation improvement programs, and projects that are developed, funded, or approved by the United States Department of Transportation or that are recipients of funds under the Federal Transit Act or from the Federal Highway Administration (FHWA), conform to the SIP as approved or promulgated by EPA.

Currently, transportation conformity applies in nonattainment areas and maintenance areas (maintenance areas are those areas that were in nonattainment that have been redesignated to attainment, under the FCCA). Under transportation conformity, a determination of conformity with the applicable SIP must be made by the agency responsible for the project, such as the Metropolitan Planning Organization, the Council of Governments, or a federal agency. The agency making the determination is also responsible for all the requirements relating to public participation. Generally, a project will be considered in

conformance if it is in the transportation improvement plan and the transportation improvement plan is incorporated in the SIP. If an action is covered under transportation conformity, it does not need to be separately evaluated under general conformity.

Transportation Control Measures

One particular aspect of the SIP development process is the consideration of potential control measures as a part of making progress towards clean air goals. While most SIP control measures are aimed at reducing emissions from stationary sources, some are typically also created to address mobile or transportation sources. These are known as transportation control measures (TCMs). TCM strategies are designed to reduce vehicle miles traveled and trips, or vehicle idling and associated air pollution. These goals are achieved by developing attractive and convenient alternatives to single-occupant vehicle use. Examples of TCMs include ridesharing programs, transportation infrastructure improvements such as adding bicycle and carpool lanes, and expansion of public transit.

California Clean Air Act

The CCAA was first signed into law in 1988. The CCAA provides a comprehensive framework for air quality planning and regulation, and spells out, in statute, the state's air quality goals, planning and regulatory strategies, and performance. The CARB is the agency responsible for administering the CCAA. The CARB established ambient air quality standards pursuant to the California Health and Safety Code (CH&SC) [§39606(b)], which are similar to the federal standards.

California Air Quality Standards

Although NAAQS are determined by the USEPA, states have the ability to set standards that are more stringent than the federal standards. As such, California established more stringent ambient air quality standards. Federal and state ambient air quality standards have been established for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulates (PM_{10}) and lead. In addition, California has created standards for pollutants that are not covered by federal standards. Although there is some variability among the health effects of the CAAQS pollutants, each has been linked to multiple adverse health effects including, among others, premature death, hospitalizations and emergency department visits for exacerbated chronic disease, and increased symptoms such as coughing and wheezing. The existing state and federal primary standards for major pollutants are shown in Table 3.2-1.

Air quality standard setting in California commences with a critical review of all relevant peer reviewed scientific literature. The Office of Environmental Health Hazard Assessment (OEHHA) uses the review of health literature to develop a recommendation for the standard. The recommendation can be for no change or can recommend a new standard. The review, including the OEHHA recommendation, is summarized in a document called the draft Initial Statement of Reasons (ISOR), which is released for comment by the public, and also for public peer review by the Air Quality Advisory Committee (AQAC). AQAC members

are appointed by the President of the University of California for their expertise in the range of subjects covered in the ISOR, including health, exposure, air quality monitoring, atmospheric chemistry and physics, and effects on plants, trees, materials, and ecosystems. The Committee provides written comments on the draft ISOR. The ARB staff next revises the ISOR based on comments from AQAC and the public. The revised ISOR is then released for a 45-day public comment period prior to consideration by the Board at a regularly scheduled Board hearing.

In June of 2002, the CARB adopted revisions to the PM_{10} standard and established a new $PM_{2.5}$ annual standard. The new standards became effective in June 2003. Subsequently, staff reviewed the published scientific literature on ground-level ozone and nitrogen dioxide and the CARB adopted revisions to the standards for these two pollutants. Revised standards for ozone and nitrogen dioxide went into effect on May 17, 2006, and March 20, 2008, respectively. These revisions reflect the most recent changes to the CAAQS.

CARB Mobile-Source Regulation

The State of California is responsible for controlling emissions from the operation of motor vehicles in the state. Rather than mandating the use of specific technology or the reliance on a specific fuel, the CARB's motor vehicle standards specify the allowable grams of pollution per mile driven. In other words, the regulations focus on the reductions needed rather than on the manner in which they are achieved. Towards this end, the CARB has adopted regulations which required auto manufacturers to phase in less polluting vehicles.

CARB Air Quality and Land Use Handbook

The CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* addresses the importance of considering health risk issues when siting sensitive land uses, including residential development, in the vicinity of intensive air pollutant emission sources including freeways or high-traffic roads, distribution centers, ports, petroleum refineries, chrome plating operations, dry cleaners, and gasoline dispensing facilities. The CARB Handbook draws upon studies evaluating the health effects of traffic traveling on major interstate highways in metropolitan California centers within Los Angeles (Interstate I-405 and I-710), the San Francisco Bay, and San Diego areas. The recommendations identified by the CARB, including siting residential uses a minimum distance of 500 feet from freeways or other high-traffic roadways, are consistent with those adopted by the State of California for location of new schools. Specifically, the CARB Handbook recommends, "Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day" (CARB, 2005).

Tanner Air Toxics Act

California regulates TACs primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act sets forth a formal procedure for the CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before the CARB can designate a

substance as a TAC. To date, the CARB has identified more than 21 TACs and has adopted EPA's list of HAPs as TACs. Most recently, diesel PM was added to the CARB list of TACs. Once a TAC is identified, the CARB then adopts an Airborne Toxics Control Measure (ATCM) for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate Best Available Control Technology (BACT) to minimize emissions.

The AB 2588 requires that existing facilities that emit toxic substances above a specified level prepare a toxic-emission inventory, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures. The CARB has adopted diesel exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators). In February 2000, the CARB adopted a new public-transit bus-fleet rule and emission standards for new urban buses. These rules and standards provide for (1) more stringent emission standards for some new urban bus engines, beginning with 2002 model year engines; (2) zero-emission bus demonstration and purchase requirements applicable to transit agencies; and (3) reporting requirements under which transit agencies must demonstrate compliance with the urban transit bus fleet rule. Other recent milestones include the low-sulfur diesel-fuel requirement, and tighter emission standards for heavy-duty diesel trucks (2007) and off-road diesel equipment (2011) nationwide.

Transport of Pollutants

The California Clean Air Act, Section 39610 (a), directs the CARB to "identify each district in which transported air pollutants from upwind areas outside the district cause or contribute to a violation of the ozone standard and to identify the district of origin of transported pollutants." The information regarding the transport of air pollutants from one basin to another was to be quantified to assist interrelated basins in the preparation of plans for the attainment of State ambient air quality standards. Numerous studies conducted by the CARB have identified air basins that are impacted by pollutants transported from other air basins (as of 1993). Among the air basins affected by air pollution transport from the San Francisco Bay Area Air Basin (SFBAAB) are the North Central Coast Air Basin, the Mountain Counties Air Basin, the San Joaquin Valley Air Basin, and the Sacramento Valley Air Basin. The SFBAAB was also identified as an area impacted by the transport of air pollutants from the Sacramento region.

Regional

Bay Area Air Quality Management District

The BAAQMD is the agency responsible for assuring that the National and California AAQS are attained and maintained in the SFBAAB. The BAAQMD is responsible for:

- Adopting and enforcing rules and regulations concerning air pollutant sources.
- Issuing permits for stationary sources of air pollutants.
- Inspecting stationary sources of air pollutants.
- Responding to citizen complaints.
- Monitoring ambient air quality and meteorological conditions.
- Awarding grants to reduce motor vehicle emissions.
- Conducting public education campaigns.
- Air Quality Management Planning.

Air quality conditions in the SFBAAB have improved significantly since the BAAQMD was created in 1955.[1] The BAAQMD prepares Air Quality Management Plans (AQMPs) to attain ambient air quality standards in the Air Basin. The BAAQMD prepares ozone attainment plans for the National O_3 standard and clean air plans for the California O_3 standard. The BAAQMD prepares these AQMPs in coordination with Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC).

BAAQMD Air Quality Plans

The BAAQMD adopted the 2017 Clean Air Plan on April 19, 2017, to comply with State air quality planning requirements set forth in the California Health and Safety Code. The 2017 Clean Air Plan includes a wide range of control measures designed to decrease emissions of the air pollutants that are most harmful to Bay Area residents, such as particulate matter (PM), O_3, and TACs; to reduce emissions of methane and other "super-greenhouse gases (GHGs)" that are potent climate pollutants in the near-term; and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.

The proposed control strategy for the 2017 Clean Air Plan consists of 85 specific control measures targeting a variety of local, regional, and global pollutants. The control measures have been developed for stationary sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, water, and super-GHG pollutants. Implementation of some of the control measures could involve retrofitting, replacing, or installing new air pollution control equipment, changes in product formulations, or construction of infrastructure that have the potential to create air quality impacts.

The BAAQMD California Environmental Quality Act (CEQA) Guidelines set forth criteria for determining consistency with the 2017 Clean Air Plan. In general, a project is considered consistent if (1) the project supports the primary goals of the Clean Air Plan, (2) includes control measures and (3) does not interfere with implementation of the Clean Air Plan measures.

[1]Bay Area Air Quality Management District (BAAQMD). 2017. CEQA Air Quality Guidelines, Appendix C, May.

BAAQMD 2017 CEQA Air Quality Guidelines

The purpose of the CEQA Air Quality Guidelines is to assist lead agencies in evaluating air quality impacts of projects and plans proposed in the SFBAAB. The Guidelines contain instructions on how to evaluate, measure, and mitigate air quality impacts generated from land development construction and operation activities. The Guidelines focus on criteria air pollutant, GHG, toxic air contaminant, and odor emissions generated from plans or projects and are intended to help lead agencies navigate through the CEQA process. The Guidelines for implementation of the Thresholds are for information purposes only to assist local agencies. Recommendations in the Guidelines are advisory and should be followed by local governments at their own discretion.

The most recent version of the CEQA Air Quality Guidelines were published May 2017, and includes revisions made to address the Supreme Court's opinion (*California Building Industry Association v. Bay Area Air Quality Management District*, December 2015).[2] The May 2017 Guidelines update does not address outdated references, links, analytical methodologies or other technical information that may be in the Guidelines or Thresholds Justification Report. The BAAQMD is currently working to update any outdated information in the Guidelines.

Community Air Risk Evaluation Program

The BAAQMD's Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposure to outdoor TACs in the Bay Area. Based on findings of the latest report, DPM was found to account for approximately 85 percent of the cancer risk from airborne toxics.

Carcinogenic compounds from gasoline-powered cars and light duty trucks were also identified as significant contributors: 1,3-butadiene contributed four percent of the cancer risk-weighted emissions, and benzene contributed three percent. Collectively, five compounds (DPM, 1,3-butadiene, benzene, formaldehyde, and acetaldehyde) were found to be responsible for more than 90 percent of the cancer risk attributed to emissions. All of these compounds are associated with emissions from internal combustion engines. The most important sources of cancer risk-weighted emissions were combustion-related sources of DPM, including on-road mobile sources (31 percent), construction equipment (29 percent), and ships and harbor craft (13 percent). A 75 percent reduction in DPM was predicted between 2005 and 2015 when the inventory accounted for the ARB's diesel regulations.

[2]In March 2012, the Alameda County Superior Court ordered the BAAQMD to set aside use of the significance thresholds within the BAAQMD 2010 CEQA Guidelines and cease dissemination until they complete an assessment of the environmental effects of the thresholds in accordance with CEQA. The Court found that the thresholds, themselves, constitute a "project" for which environmental review is required. In August 2013, the First District Court of Appeal reversed the Alameda County Superior Court's decision. The Court held that adoption of the thresholds was not a "project" subject to CEQA because environmental changes that might result from their adoption were too speculative to be considered "reasonably foreseeable" under CEQA. In December 2015, the California Supreme Court reversed the Court of Appeal's decision and remanded the matter back to the appellate court to reconsider the case in light of the Supreme Court's opinion.

Overall, cancer risk from TAC dropped by more than 50 percent between 2005 and 2015, when emissions inputs accounted for State diesel regulations and other reductions.[3]

Modeled cancer risks from TAC in 2005 were highest near sources of DPM: near core urban areas, along major roadways and freeways, and near maritime shipping terminals. Peak modeled risks were found to be located east of San Francisco, near West Oakland and the Maritime Port of Oakland. BAAQMD has identified seven impacted communities in the Bay Area:

- Western Contra Costa County and the cities of Richmond and San Pablo
- Western Alameda County along the Interstate 880 (I-880) corridor and the cities of Berkeley, Alameda, Oakland, and Hayward
- San José
- Eastern side of San Francisco
- Concord
- Vallejo
- Pittsburgh and Antioch

The eastern side of San Francisco is the closest CARE program impacted community to Tiburon. The Town is not located within this impacted community.

The major contributor to acute and chronic non-cancer health effects in the Air Basin is acrolein (C_3H_4O). Major sources of acrolein are on-road mobile sources and aircraft near freeways and commercial and military airports.[4]

2020 General Plan The 2020 General Plan includes goals, policies, and implementation measures that assist in reducing or avoiding impacts to air quality. These goals, policies, and implementation measures are found in the Open Space and Conservation Element and Circulation Element.

3.2.4 SENSITIVE RECEPTORS

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases. Residential areas are also considered sensitive receptors to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting

[3] Bay Area Air Quality Management District (BAAQMD). 2014. Improving Air Quality & Health in Bay Area Communities, Community Air Risk Evaluation Program Retrospective & Path Forward. April.

[4] Bay Area Air Quality Management District (BAAQMD). 2006. Community Air Risk Evaluation Program, Phase I Findings and Policy Recommendations Related to TACs in the San Francisco Bay Area. September.

in sustained exposure to any pollutants present. Other sensitive receptors include retirement facilities, hospitals, and schools.

Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial, commercial, retail, and office areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, since the majority of the workers tend to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the population.

3.2.5 THRESHOLDS OF SIGNIFICANCE

According to the CEQA Guidelines Appendix G, the General Plan 2040 will have a significant impact related to air quality if it would:

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

BAAQMD Significance Criteria

BAAQMD CEQA Air Quality Guidelines

The purpose of the CEQA Air Quality Guidelines is to assist lead agencies in evaluating air quality impacts of projects and plans proposed in the San Francisco Bay Area Air Basin. The Guidelines contain instructions on how to evaluate, measure, and mitigate air quality impacts generated from land development construction and operation activities. The Guidelines focus on criteria air pollutant, GHG, toxic air contaminant, and odor emissions generated from plans or projects and are intended to help lead agencies navigate through the CEQA process. The Guidelines for implementation of the Thresholds are for information purposes only to assist local agencies. Recommendations in the Guidelines are advisory and should be followed by local governments at their own discretion.

The most recent version of the CEQA Air Quality Guidelines were published May 2017, and includes revisions made to address the Supreme Court's opinion (*California Building Industry Association v. Bay Area Air Quality Management District*, December 2015).[5] The May 2017

[5]In March 2012, the Alameda County Superior Court ordered BAAQMD to set aside use of the significance thresholds within the BAAQMD 2010 CEQA Guidelines and cease dissemination until they complete an assessment of the environmental effects of the thresholds in accordance with CEQA. The Court found that the

Guidelines update does not address outdated references, links, analytical methodologies or other technical information that may be in the Guidelines or Thresholds Justification Report. The BAAQMD is currently working to update any outdated information in the Guidelines.

Criteria Air Pollutants and Precursors

Regional Significance Criteria

The BAAQMD's criteria for regional significance for projects that exceed the screening thresholds are shown in Table 3.2-8. Criteria for both the construction and operational phases of the Project are shown.

TABLE 3.2-8: BAAQMD REGIONAL (MASS EMISSIONS) CRITERIA AIR POLLUTANT SIGNIFICANCE THRESHOLDS

Pollutant	CONSTRUCTION PHASE	OPERATIONAL PHASE	
	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/day)	Maximum Annual Emissions (tons/year)
ROG	54	54	10
NOx	54	54	10
PM10	82 (Exhaust)	82	15
PM2.5	54 (Exhaust)	54	10
PM10 and PM2.5 Fugitive Dust	Best Management Practices	None	None

BAAQMD is the primary agency responsible for ensuring the health and welfare of sensitive individuals exposed to elevated concentrations of air pollutants in the SFBAAB and has established thresholds that would be protective of these individuals. To achieve the health-based standards established by the USEPA, BAAQMD prepares the Clean Air Plan that details regional programs to attain the AAQS. Mass emissions in Table 3.2-8 are not correlated with concentrations of air pollutants but contribute to the cumulative air quality impacts in the SFBAAB. The thresholds are based on the trigger levels for the federal New Source Review Program, which was created to ensure projects are consistent with attainment of health based federal AAQS. Regional emissions from a single project do not single-handedly trigger a regional health impact, and it is speculative to identify how many more individuals in the SFBAAB would be affected. Projects that do not exceed the BAAQMD regional significance

thresholds, themselves, constitute a "project" for which environmental review is required. In August 2013, the First District Court of Appeal reversed the Alameda County Superior Court's decision. The Court held that adoption of the thresholds was not a "project" subject to CEQA because environmental changes that might result from their adoption were too speculative to be considered "reasonably foreseeable" under CEQA. In December 2015, the California Supreme Court reversed the Court of Appeal's decision and remanded the matter back to the appellate court to reconsider the case in light of the Supreme Court's opinion.

thresholds in Table 3.2-8 would not violate any air quality standards or contribute substantially to an existing or projected air quality violation.

If projects exceed the emissions in Table 3.2-8, emissions would cumulatively contribute to the nonattainment status and would contribute to elevating health effects associated with these criteria air pollutants. Known health effects related to ozone include worsening of bronchitis, asthma, and emphysema and a decrease in lung function. Health effects associated with particulate matter include premature death of people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, decreased lung function, and increased respiratory symptoms. Reducing emissions would contribute to reducing possible health effects related to criteria air pollutants. However, for projects that exceed the emissions in Table 3.2-8, it is speculative to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment—because mass emissions are not correlated with concentrations of emissions—or how many additional individuals in the SFBAAB would experience the health effects cited above.

BAAQMD has not provided methodology to assess the specific correlation between mass emissions generated and the effect on health in order to address the issue raised in Sierra Club v. County of Fresno (Friant Ranch, L.P.) (2018) 6 Cal.5th 502, Case No. S21978. Ozone concentrations are dependent upon a variety of complex factors, including the presence of sunlight and precursor pollutants, natural topography, nearby structures that cause building downwash, atmospheric stability, and wind patterns. Because of the complexities of predicting ground-level ozone concentrations in relation to the National AAQS and California AAQS, it is not possible to link health risks to the magnitude of emissions exceeding the significance thresholds. However, if a project in the Bay Area exceeds the regional significance thresholds, the project could contribute to an increase in health effects in the basin until the attainment standard are met in the SFBAAB.

Long-Range Plan Consistency Analysis

Under its plan-level review criteria, which apply to long range plans such as this General Plan 2040, the BAAQMD requires a consistency evaluation of a plan with its current air quality plan control measures. The current AQMP is the 2017 Bay Area Clean Air Plan. The BAAQMD considers the project consistent with the air quality management plan in accordance with the following, which are discussed under Impact 3.2-1, below:

- Does the project support the primary goals of the AQMP?
- Does the project include applicable control measures from the AQMP?
- Does the project disrupt or hinder implementation of any AQMP control measures?
- A comparison that the project vehicle-miles-traveled (VMT) or vehicle trip increase is less than or equal to the projected population increase.

Local CO Hotspots

Congested intersections have the potential to create elevated concentrations of CO, referred to as CO hotspots. The significance criteria for CO hotspots are based on the California AAQS for CO, which are 9.0 ppm (8-hour average) and 20.0 ppm (1-hour average). Under the plan-level review, BAAQMD does not require an evaluation of CO hotspots.[6] With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology, the SFBAAB is in attainment of the California and National AAQS, and CO concentrations in the Air Basin have steadily declined. Because CO concentrations have improved, the BAAQMD does not require a CO hotspot analysis if the following criteria are met:

- The project is consistent with an applicable congestion management program established by the County Congestion Management Agency for designated roads or highways, the regional transportation plan, and local congestion management agency plans.
- The project would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
- The project traffic would not increase traffic volumes at affected intersection 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).

As discussed in Section 3.14, Transportation, all three criteria identified above have been met. Therefore, a CO hotspot analysis is not required for the General Plan 2040.

Community Risk and Hazards: Project

The BAAQMD's significance thresholds for local community risk and hazard impacts apply to both the siting of a new source and to the siting of a new receptor.

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. Significant health impacts may occur when a project generates:

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

Community Risk and Hazards: Cumulative

For assessing community risk and hazards, sources within a 1,000-foot radius of a project site are considered. Sources are defined as freeways, high volume roadways (with volume of

[6]Congested intersections have the potential to create CO hotspots.

10,000 vehicles or more per day or 1,000 trucks per day) and permitted sources. For a plan-level analysis, the following would create a significant impact:

- Non-compliance with a qualified risk reduction plan; or
- An excess cancer risk level of more than 10 in one million, or a non-cancer (i.e., chronic or acute) hazard index greater than 1.0 would be a cumulatively considerable contribution; or
- An incremental increase of greater than 0.3 micrograms per cubic meter (µg/m3) annual average PM2.5 would be a cumulatively considerable contribution.

Odors

BAAQMD's thresholds for odors are qualitative based on BAAQMD's Regulation 7, Odorous Substances. This rule places general limitations on odorous substances and specific emission limitations on certain odorous compounds. Odors are also regulated under BAAQMD Regulation 1, Rule 1-301, Public Nuisance, which states that no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public; or which endangers the comfort, repose, health, or safety of any such persons or the public, or which cause, or has a natural tendency to cause, injury, or damage to business or property. Under BAAQMD's Rule 1-301. BAAQMD has established odor screening thresholds for land uses that have the potential to generate substantial odor complaints, including wastewater treatment plants, landfills or transfer stations, composting facilities, confined animal facilities, food manufacturing, and chemical plants.[7] For a plan-level analysis, BAAQMD requires the identification of potential existing and planned location of odors sources and policies to reduce odors.

Methodology

Impacts on the Environment on a Future Project

BAAQMD's CEQA Guidelines include methodology for jurisdictions wanting to evaluate the potential impacts from placing sensitive receptors proximate to major air pollutant sources. For assessing community risk and hazards for siting a new receptor, sources within a 1,000-foot radius of a project site are typically considered. Sources are defined as freeways, high volume roadways (with volume of 10,000 vehicles or more per day or 1,000 trucks per day) and permitted sources.[8]

[7] Bay Area Air Quality Management District, 2017, May, California Environmental Quality Act Air Quality Guidelines. http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf, accessed on February 16, 2023.

[8] Bay Area Air Quality Management District, 2010 (Revised 2011). California Environmental Quality Act Air Quality Guidelines.

Buildout under the General Plan 2040 could result in siting sensitive uses (e.g., residential) near sources of emissions (e.g., freeways such as SR 131, industrial uses, dry cleaners, gasoline stations, etc.). Developing new sensitive land uses near sources of emissions could expose persons that inhabit these sensitive land uses to potential air quality-related impacts. However, the purpose of this environmental evaluation is to identify the significant effects of the General Plan 2040 on the environment, not the significant effects of the environment on the General Plan 2040 . California Building Industry Association v. Bay Area Air Quality Management District (2015) 62 Cal.4th 369 (Case No. S213478). Thus, CEQA does not require analysis of the potential environmental effects from siting sensitive receptors near existing sources, and this type of analysis is not provided in Section 3.2.6, impact discussion.

3.2.6 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

Impacts related to air quality resulting from implementation of the Project are discussed below. The impact analysis is based on air quality modeling of the criteria air pollutant emissions that would result from projected future growth between the existing conditions and year 2040. The California Emissions Estimator Model (CalEEMod Version 2020.4.0) was used to compute emissions of air pollutants (see Appendix B).

Impact 3.2-1 Implementation of the General Plan 2040 could conflict with or obstruct implementation of the applicable air quality plan.

A consistency determination plays an important role in local agency project review by linking local planning and individual projects to the 2017 Clean Air Plan. It fulfills the CEQA goal of informing decision makers of the environmental efforts of the project under consideration at an early enough stage to ensure that air quality concerns are fully addressed. It also provides the local agency with ongoing information as to whether they are contributing to clean air goals in the Bay Area.

As described in Section 3.2.5, Thresholds of Significance, BAAQMD requires a consistency evaluation of a plan with its current AQMP measures. BAAQMD considers project consistency with the AQMP in accordance with the following:

2017 Bay Area Clean Air Plan

The current AQMP applicable to the Planning Area is the 2017 Bay Area Clean Air Plan.

Under BAAQMD's guidance, a proposed land use plan is consistent with the AQMP if it would (1) support the primary goals of the AQMP, (2) include applicable control measures from the AQMP, and (3) not disrupt or hinder implementation of any AQMP control measures. In addition, (4) the plan's projected VMT increase must be less than or equal to its projected population increase. Based on the analysis below, the General Plan 2040 has been found to be consistent with the AQMP prepared by the BAAQMD.

(1) The General Plan 2040 Supports the Primary Goals of the AQMP

The primary goals of the 2017 Bay Area Clean Air Plan are to attain air quality standards, reduce population exposure and protect public health, and reduce GHG emissions and protect the climate.

Attain Air Quality Standards

BAAQMD's 2017 Bay Area Clean Air Plan strategy is based on regional population and employment projections within the Bay Area compiled by ABAG.[9] Demographic trends incorporated into the Plan Bay Area determine vehicle miles traveled (VMT) within the Bay Area, which BAAQMD utilizes to forecast future air quality trends. The SFBAAB is currently designated a nonattainment area for O_3, $PM_{2.5}$, and PM_{10} (State AAQS only).

Future growth associated with the General Plan 2040 would occur incrementally throughout the 2040 buildout horizon. As discussed further in Section 3.12, Population, Employment and Housing, of this Draft EIR, the proposed population and employment projections of the General Plan 2040 would result in a less-than-significant impact related to regional growth. As described in Section 3.12, the General Plan 2040 contains goals, policies, and programs that are intended to guide development in Tiburon through the 2040 horizon year in a manner that reduces/minimizes VMT. For example, Policy C-23 requires the Town to encourage reduction of the number of single-occupant vehicle trips and cumulative emissions that result from auto use, and Policy M-65 requires the Town to support and prioritize land uses and transportation provisions that help reduce VMT.

Potential future development in the Town is projected to occur on a limited number of vacant parcels, as infill/intensification on already developed and/or underutilized sites, and/or in areas with close proximity to public transportation. Additionally, although growth associated with the General Plan 2040 would increase housing by a maximum of approximately 916 residential units, there would also be a reduction of approximately 129,682 square feet of non-residential uses.

However, while the Project is consistent with the control measures contained within the 2017 Bay Area Clean Air Plan (as provided in further detail in Table 3.2-9, below), the growth projected by the Project was not necessarily taken into account within the 2017 Bay Area Clean Air Plan. Thus, emissions resulting from potential future development associated with the General Plan 2040 could hinder BAAQMD's ability to attain the California or National AAQS.

Reduce Population Exposure and Protect Public Health from Toxic Air Contaminants

Development anticipated by the General Plan 2040 could result in an increase in new residential uses and a reduction of non-residential uses. Most development under the

[9] Projections 2040 by Jurisdiction (Curated), prepared by ABAG. Website: http://projections.planbayarea.org/. Accessed April 20, 2020.

General Plan 2040 is expected to be Multifamily and Mixed-Use Residential uses. The development contemplated by the General Plan 2040 would be consistent with the existing development patterns in the Town.

Mandatory compliance with BAAQMD regulations would ensure that new sources of TACs do not expose populations to significant health risk. Further, since the land uses associated with the General Plan 2040 are residential and retail uses, operational-related risks from toxic air contaminants due to development of the General Plan 2040 would be minimal. Moreover, individual development projects would be required to achieve the incremental risk thresholds established by BAAQMD. In addition, Policy C-22 (Air Quality Impacts to Sensitive Receptors) requires the Town to minimize exposure of sensitive receptors to concentrations of air pollutant emissions, toxic air contaminants, and odors, which would further ensure that populations are not exposed to significant health risk. Overall, implementation of General Plan 2040 policies and programs would reduce community risk and hazards.

Reduce Greenhouse Gas Emissions

Consistency of the General Plan 2040 with State, regional, and local plans adopted for the purpose of reducing GHG emissions are discussed under Impact 3.7-2 in Chapter 3.7, Greenhouse Gas Emissions, of this Draft EIR. Future development allowed by the General Plan 2040 would be required to adhere to statewide measures that have been adopted to achieve the GHG reduction targets of AB 32 and SB 32. The General Plan 2040 is consistent with regional strategies for infill development identified in Plan Bay Area 2050 ("Plan Bay Area"). Furthermore, the General Plan 2040 would also be consistent with the Town's recently adopted Climate Action Plan (CAP). While Impact 3.7-1 identifies that the General Plan 2040 would generate a substantial increase in emissions, Impact 3.7-2 identifies that the General Plan 2040 is consistent with state, regional, and local plans to reduce GHG emissions. Therefore, the General Plan 2040 is consistent with the goal of the 2017 Clean Air Plan to reduce GHG emissions and protect the climate.

(2) The General Plan 2040 Includes Applicable Control Measures From the AQMP

The 2017 Bay Area Clean Air Plan contains 55 control measures aimed at reducing air pollution in the Bay Area. These include control measures addressing stationary, area, mobile source, and transportation emissions. They also include control measures designed to protect the climate and promote mixed use, compact development to reduce vehicle emissions and exposure to pollutants from stationary and mobile sources. BAAQMD encourages lead agencies to incorporate these measures into plan elements. As explained below, the General Plan 2040 includes the applicable control measures form the AQMP.

Table 3.2-9 identifies the applicable control measures included in the 2017 Bay Area Clean Air Plan and the General Plan 2040 polices and regulations in the Tiburon Municipal Code related to the control measures. As shown in Table 3.2-9, the General Plan 2040 and Municipal Code include policies and requirements that incorporate and implement the

control measures included in the 2017 Bay Area Clean Air Plan. As such, the General Plan 2040 would be consistent with the 2017 Bay Area Clean Air Plan under this criterion.

Table 3.2-9: General Plan 2040 Consistency with 2017 Clean Air Plan

2017 BAY AREA CLEAN AIR PLAN CONTROL MEASURE	CONSISTENT WITH CONTROL MEASURE?	DISCUSSION
TR2 (TRIP REDUCTION PROGRAMS): ENCOURAGE TRIP REDUCTION POLICIES AND PROGRAMS IN LOCAL PLANS. ENCOURAGE LOCAL GOVERNMENTS TO REQUIRE MITIGATION OF VEHICLE TRAVEL AS PART OF NEW DEVELOPMENT APPROVAL, TO ADOPT TRANSIT BENEFITS ORDINANCES IN ORDER TO REDUCE TRANSIT COSTS TO EMPLOYEES, AND TO DEVELOP INNOVATIVE WAYS TO ENCOURAGE RIDESHARE, TRANSIT, CYCLING, AND WALKING FOR WORK TRIPS.	Yes	The General Plan 2040 includes the following policies to reduce vehicle miles traveled: • Policy C-23. Vehicle Emissions Reduction. Encourage the reduction of the number of single-occupant vehicle trips and cumulative emissions that result from auto use through implementation of Mobility Element policies. • Policy S-1. Greenhouse Gas Emission Reductions. Mitigate the impacts of climate change by reducing community greenhouse gas emissions. • Policy M-65. Land Use and Transportation Priorities to Reduce VMT. Support and prioritize land use and transportation provisions that help reduce VMT. • Policy M-67. Car Sharing and Bicycle Sharing. Support car sharing and bicycle sharing opportunities in Downtown Tiburon. Programs: • Program C-h. Participate in Emission Reduction Efforts. Participate in efforts to voluntarily reduce activities that pollute on Spare the Air days and help publicize Spare the Air day activities. • Program C-i. Reduce Particulate Emissions. • Promote the reduction of particulate matter from construction sites, roads, parking lots, and other sources through requiring development projects to implement best management practices (BMPs). • Program C-k. Emission Reductions. Require the use of feasible control measures to reduce PM10, NOx, and diesel particulate matter related to development, including construction and operational phases. • Program C-l. Zero Emission Landscape and Small Off-Road Equipment. Consider adoption of an ordinance requiring the use of zero emission landscape and small off-road equipment instead of gasoline and diesel-powered equipment in all residential and commercial areas. • Program S-a Emissions Reduction Targets. Implement strategies to achieve reductions in greenhouse gas emissions at least 50 percent below 1990 levels by 2030, and to support the State's goal to achieve zero net emissions statewide by 2045.
TR9 (BICYCLE AND PEDESTRIAN ACCESS FACILITIES): ENCOURAGE PLANNING FOR BICYCLE AND	Yes	The General Plan 2040 includes the following policies related to bicycle and pedestrian facilities: • Policy M-36. Bicycle Safety for Children. To reduce single-child automobile trips to schools, the Town shall support infrastructure improvements and programs that encourage children to bike

2017 BAY AREA CLEAN AIR PLAN CONTROL MEASURE	CONSISTENT WITH CONTROL MEASURE?	DISCUSSION
PEDESTRIAN FACILITIES IN LOCAL PLANS.		and/or walk safely to school or ride a bus. This includes installation of sidewalks in critical areas where feasible. • Policy M-37. Countdown Pedestrian Signals. The Town supports, where warranted, the replacement by Caltrans of pedestrian traffic signals with "countdown-style" pedestrian signals, which inform pedestrians of the number of seconds remaining to cross safely. • Policy M-39. Bike Facilities. Bicycle facilities, including bike racks, shall be included as part of new public and commercial projects, particularly in Downtown Tiburon. • Policy M-40. Pedestrian Streets. Establish pedestrian routes, particularly for school children, for all neighborhoods where feasible and appropriate. Require that pedestrian-oriented streets be designed to provide a pleasant environment for walking and other desirable uses of public space, including such elements as shade trees, plantings, and wayfinding signage where appropriate. Pedestrian routes shall include safe crossings at major intersections. • Policy M-42. Bicycle and Pedestrian Master Plan. In developing capital improvement budgets, the Town shall use the Bicycle and Pedestrian Master Plan as a guide for prioritizing bicycle and pedestrian improvements. New development shall be consistent with applicable provisions of the Bicycle and Pedestrian Master Plan. Programs: • Program M-i. Bicycle and Pedestrian Master Plan. Review and update the Bicycle and Pedestrian Master Plan periodically and revise the list of improvements and actions called for in the Master Plan when implementation has occurred, and/or when conditions warrant.
EN2 (DECREASE ELECTRICITY DEMAND): WORK WITH LOCAL GOVERNMENTS TO ADOPT ADDITIONAL ENERGY-EFFICIENCY POLICIES AND PROGRAMS.	Yes	The General Plan 2040 includes the following policies to decrease electricity demand: • Policy S-2. Renewable Energy. Accelerate the conversion to renewable energy sources. • Policy S-3. Building Energy Efficiency. Encourage energy efficiency improvements in existing residential and commercial buildings to reduce energy use. • Program S-j. Energy Efficiency Programs. Promote programs and incentives to property owners to improve energy efficiency. Consider requiring energy audits at time of building sale or major remodel. Programs: • Program S-f. Building and Appliance Electrification. Consider building regulations which preclude gas appliances and infrastructure in new buildings and regulations and require gas appliances to be replaced with high-efficiency electric at burnout. • Program S-i. Green Building Regulations. Consider adopting green building regulations for new construction and building remodels and additions that exceed minimum State building and energy code requirements.

2017 BAY AREA CLEAN AIR PLAN CONTROL MEASURE	CONSISTENT WITH CONTROL MEASURE?	DISCUSSION
BL4 (URBAN HEAT ISLAND MITIGATION): PERFORM OUTREACH TO CITIES AND COUNTIES TO MAKE THEM AWARE OF COOL ROOFING AND PAVING TECHNIQUES.	Yes	The General Plan 2040 includes the following policies and programs to encourage local governments to develop green buildings (which could include cool roofing techniques) • Policy S-8. Green Building in Town Facilities. Apply green building principles to the design, construction, and operation of new Town and Town-sponsored facilities to provide long-term cost savings and to serve as an example for the community. • Policy S-3. Building Energy Efficiency. Encourage energy efficiency improvements in existing residential and commercial buildings to reduce energy use. Programs: • Program S-I. Green Building Regulations. Consider adopting green building regulations for new construction and building remodels and additions that exceed minimum State building and energy code requirements. • Program S-j. Energy Efficiency Programs. Promote programs and incentives to property owners to improve energy efficiency. Consider requiring energy audits at time of building sale or major remodel.
NW2 (URBAN TREE PLANTING): ENCOURAGE LOCAL GOVERNMENTS TO ADOPT A MUNICIPAL TREE PLANTING ORDINANCE.	Yes	The General Plan 2040 includes the following policies to encourage local governments to adopt a municipal tree planning ordinance: • Policy C-14. Tree Protection. Preserve protected trees, as defined in the Municipal Code, tree stands, and tree clusters to the maximum extent feasible. Programs: • Program C-b. Tree Preservation. Consider revising and expanding the Tiburon Tree Ordinance to provide protection of both individual trees and native woodlands. Factors to consider in expanding the current ordinance include the importance of protecting smaller sapling trees and balancing their protection against those of designated "protected trees", defining critical management guidelines necessary to maintain healthy woodlands, and methods to encourage natural regeneration in woodland habitats.
WA3 (GREEN WASTE DIVERSION): FACILITATE ADOPTION OF LOCAL ORDINANCES AND PROGRAMS TO REDUCE THE AMOUNT OF GREEN WASTE GOING TO LANDFILLS.	Yes	The General Plan 2040 includes the following policies to reduce the amount of green waste going to landfills: • Policy S-5. Waste Diversion Targets. Strive to meet or exceed waste diversion and food recovery targets set by the state. Programs: • Program S-m. Business Waste Management Plans. Require that businesses prepare and implement waste management plans to maximize recycling and food recovery and minimize disposal of organic waste where appropriate as a condition of approval of use permits. • Program S-n. Organic Waste Reduction. Work with the Town's waste hauler and Zero Waste Marin to develop and implement programs

2017 BAY AREA CLEAN AIR PLAN CONTROL MEASURE	CONSISTENT WITH CONTROL MEASURE?	DISCUSSION
		to educate and motivate residents and business owners to increase recycling of materials and food recovery and reduce disposal of organic waste.
WA4 (RECYCLING AND WASTE REDUCTION): PROMOTE COMMUNITY-WIDE ZERO WASTE GOALS AND RECYCLING OF CONSTRUCTION AND DEMOLITION MATERIALS.	Yes	The General Plan 2040 includes the following policies to promote community-wide zero waste goals and recycling of construction and demolition materials: • Policy S. Municipal Waste Reduction. Maximize recycling, composting, reuse, waste reduction, and food recovery within municipal operations and at public parks and facilities. Programs: • Program S-o. Construction and Demolition Debris. Modify the solid waste disposal ordinance to maximize the recovery and recycling of construction debris consistent with the Marin Zero Waste model ordinance. • Program S-p. Recycling Facilities. Provide sufficient recycling and composting bins for public and staff use.
WR2 (SUPPORT WATER CONSERVATION): INCORPORATE WATER CONSERVATION BEST PRACTICES INTO LOCAL PLANNING GUIDANCE.	Yes	The General Plan 2040 includes the following policy related to water conservation: • Policy C-18. Water Conservation. Support the efforts of the Marin Municipal Water District (Marin Water) to conserve the use of water through enforcement of the Town's water conservation ordinance requiring implementation of water conservation measures. Programs: • Program C-e. Development Impacts on Water Retention. Where impervious surface construction and storm drain system installation and/or hillside stabilization (e.g., landslide repair) are proposed as part of development proposals, or wherever such stabilization is required by the Town to protect public safety, require project applicants to analyze the impacts of these drainage pattern modifications on groundwater recharge and on downslope water wells and their yields. In the event impacts are likely, modifications to the proposed project, including possible downsizing, should be implemented to the extent feasible. • Program C-f. Water Conservation Ordinance. Continue to implement the Town's water conservation ordinance through the review of new development proposals involving new landscaping.

Source: Bay Area Air Quality Management District (BAAQMD). 2017 Clean Air Plan. Adopted April 19, 2017.

(3) The General Plan 2040 Would Not Disrupt or Hinder Implementation of any AQMP Control Measures

As described above and shown in Table 3.2-9, the General Plan 2040 and Tiburon Municipal Code incorporate and are consistent with the control measures included in the 2017 Bay Area Clean Air Plan. The General Plan 2040 does not include any components that would disrupt or hinder implementation of any control measures, such as precluding an extension

of a planned transit line or bike bath or proposing excessive parking. As such, the General Plan 2040 would not hinder BAAQMD from implementing the control measures in the 2017 Bay Area Clean Air Plan.

(4) The General Plan 2040 Would Reduce VMT Per Capita

The following describes VMT, and population increases associated with implementation of the General Plan 2040.

The General Plan 2040 is intended to support and enhance residential uses within Tiburon, and to assist the Town in maintaining balanced housing units within the Town. Given the residential focus of the General Plan 2040, the majority of the VMT generated by future development within the Planning Area would be attributed to home-based trips and VMT associated with new population growth. As such, in order to analyze the General Plan 2040's consistency with the BAAQMD thresholds listed above, this analysis looks at population growth when analyzing relative increases in local VMT.

According to GHD (the traffic consultant), existing home-based VMT [10] in Tiburon is approximately 146,199 miles daily. Tiburon has an existing population of approximately 9,180. Full buildout of the General Plan 2040 could generate up to 2,199 new residents. Table 3.2-10 shows the population, home-based VMT, and VMT per resident generated by the General Plan 2040, compared to existing levels within the Town.[11]

TABLE 3.2-10: DAILY VMT PER RESIDENT

	POPULATION	HOME-BASED VMT	VMT PER RESIDENT
TIBURON (2015 BASELINE)	9,180	146,199	15.9
MARIN COUNTY (2015 BASELINE)	259,376	4,091,987	15.8
IMPACT THRESHOLD (85% OF MARIN COUNTY BASELINE)			13.4
PROJECT GROWTH (923 DWELLING UNITS)	2,199[1]	31,005	14.1

1. 2.38 persons per dwelling unit x 923 dwelling units

SOURCE: GHD, 2023; De Novo Planning Group, 2023

As shown in Table 3.2-10, implementation of the General Plan 2040 would result in an approximately 21.2% increase in townwide VMT, compared to a 23.9% increase in combined

[10] Home-based VMT is vehicle-miles driven to and from homes.

[11] It should be noted that this analysis is based on a total residential unit amount of 923 units, which is greater than the estimated maximum of 916 units associated with the General Plan Update. This provides a conservative estimate of General Plan Update population and Home-Based VMT.

population. Therefore, the growth rate associated with the General Plan 2040 is higher than the VMT increase associated with it. Coupled with the fact that the addition of Project-generated VMT would result in an approximately 15.7% decrease in total VMT per resident by 2040 compared with the General Plan 2040 year 2040 VMT projections under the 2020 General Plan, the General Plan 2040would not result in VMT increases that would exceed the adopted thresholds.

The General Plan 2040 would further the fundamental goals of the BAAQMD in reducing emissions of criteria pollutants associated with vehicle miles traveled, would assist the Town in achieving a more balanced jobs to housing ratio, and would increase opportunities for transit ridership in Tiburon and the surrounding areas. The list below provides those General Plan 2040 policies and programs that would minimize criteria pollutant emissions. However, since there is no guarantee that the Project would be consistent with the growth projections contained within the 2017 Bay Area Clean Air Plan, impacts would be ***significant and unavoidable*** and there are no feasible mitigation measures to mitigate this impact.

Applicable Proposed General Plan 2040 Policies and Implementation Actions
Conservation Element

Policy C-21 Implement the Clean Air Plan

Implement the Bay Area Air Quality Management District's Clean Air Plan by applying BAAQMD's rules, best control measures, and best management practices to construction, property maintenance, commercial operations, and other applicable activities.

Policy C-22 Air Quality Impacts to Sensitive Receptors

Minimize exposure of sensitive receptors to concentrations of air pollutant emissions, toxic air contaminants, and odors.

Policy C-23 Vehicle Emissions Reduction

Encourage the reduction of the number of single-occupant vehicle trips and cumulative emissions that result from auto use through implementation of Mobility Element policies.

Program C-h Participate in Emission Reduction Efforts

Participate in efforts to voluntarily reduce activities that pollute on Spare the Air days and help publicize Spare the Air day activities.

Program C-j Reduce Air Quality Impacts of New Development

Review all development and infrastructure projects for potential air quality impacts to residences, congregate housing, schools, and other sensitive receptors. Ensure that mitigation measures and best management practices are implemented to reduce significant emissions of criteria pollutants to the greatest extent feasible.

Program C-l Zero Emission Landscape and Small Off-Road Equipment

Consider adoption of an ordinance requiring the use of zero emission landscape and small off-road equipment instead of gasoline and diesel-powered equipment in all residential and commercial areas.

Program S-a Emissions Reduction Targets

Implement strategies to achieve reductions in greenhouse gas emissions at least 50 percent below 1990 levels by 2030, and to support the State's goal to achieve zero net emissions statewide by 2045.

Program S-c Monitoring Emissions

Periodically update the greenhouse gas emissions inventory for community and government operations emissions to track progress in reducing emissions and implementing the Climate Action Plan.

Program S-e Public Education

Educate the community on the impacts of climate change and actions individuals and businesses can take to reduce greenhouse gas emissions, shift to renewable energy and zero emission vehicles, reduce waste and water use, and adapt to climate change.

Program S-f Building and Appliance Electrification

Consider building regulations which preclude gas appliances and infrastructure in new buildings and regulations and require gas appliances to be replaced with high-efficiency electric at burnout.

Program S-g Municipal Energy Use

Evaluate solar energy production and storage systems at all municipal buildings and facilities and plan for replacement of natural gas appliances and equipment. Continue to purchase 100% renewable energy for Town buildings and facilities.

Program S-h Community Energy Use

Encourage residents and businesses to install solar energy production and storage systems by streamlining regulations and permit processes, or to purchase 100% renewable energy through energy providers.

Program S-i Green Building Regulations

Consider adopting green building regulations for new construction and building remodels and additions that exceed minimum State building and energy code requirements.

Program S-j Energy Efficiency Programs

Promote programs and incentives to property owners to improve energy efficiency. Consider requiring energy audits at time of building sale or major remodel.

Program S-k Zero Emission Vehicles

Implement a comprehensive program to significantly increase the use of zero emission vehicles through public education and promotion, adoption of building code requirements for electric vehicle charging facilities in new construction, and installation of Level 2 and 3 public charging facilities.

Program S-l Fleet Vehicle Replacements

Give priority to electric and zero emissions vehicles, as feasible, when replacing vehicles in the Town's fleet with the goal of achieving a zero-emissions fleet by 2030.

Program S-m Business Waste Management Plans

Require that businesses prepare and implement waste management plans to maximize recycling and food recovery and minimize disposal of organic waste where appropriate as a condition of approval of use permits.

Program S-n Organic Waste Reduction

Work with the Town's waste hauler and Zero Waste Marin to develop and implement programs to educate and motivate residents and business owners to increase recycling of materials and food recovery and reduce disposal of organic waste.

Program S-o Construction and Demolition Debris

Modify the solid waste disposal ordinance to maximize the recovery and recycling of construction debris consistent with the Marin Zero Waste model ordinance.

Program S-p Recycling Facilities

Provide sufficient recycling and composting bins for public and staff use.

Program S-q Environmentally Preferable Purchasing

Adopt municipal purchasing procedures to give preference to purchasing products that are recyclable, made from recycled materials, and minimize packaging.

Level of Significance before Mitigation

Potentially Significant

Mitigation Measures

None Feasible

Level of Significance after Mitigation

Significant and Unavoidable

Impact 3.2-2 **General Plan 2040 implementation would not result in a cumulatively considerable net increase of a criteria pollutant for which the project region is in nonattainment under applicable federal or State ambient air quality standard.**

This section analyzes potential impacts related to air quality that could occur from the buildout associated with the proposed General Plan 2040 in combination with the regional growth in the SFBAAB from construction and operational activities. The SFBAAB is currently designated a nonattainment area for California and National O_3, California and National $PM_{2.5,}$ and California PM_{10} AAQS. At a plan level, air quality impacts are measured by the potential for a project to exceed BAAQMD's significance criteria and contribute to the State and federal nonattainment designations in the SFBAAB. Any project that produces a significant regional air quality impact in an area that is in nonattainment adds to the cumulative impact. As described in Impact AIR-1, the General Plan 2040 would be consistent with the 2017 Clean Air Plan. However, construction and operational activities associated with potential future development under the General Plan 2040 could generate a substantial increase in criteria air pollutant emissions that could exceed the BAAQMD regional significance thresholds.

Construction

Construction activities would temporarily increase criteria air pollutant emissions within the SFBAAB. The primary source of NOx emissions is the operation of construction equipment. The primary sources of particulate matter (PM_{10} and $PM_{2.5}$) emissions are activities that disturb the soil, such as grading and excavation, road construction, and building demolition and construction. BAAQMD considers all impacts related to fugitive dust emissions (PM_{10} and $PM_{2.5}$) from construction to be less than significant with implementation of BAAQMD's best management practices (see Table 3.2-8). The primary sources of VOC emissions are the application of architectural coating and off-gas emissions associated with asphalt paving.

Construction activities associated with the potential future development from implementation of the General Plan 2040 would occur over the buildout horizon, causing short-term emissions of criteria air pollutants. Although BAAQMD's CEQA Air Quality Guidelines only require an emissions inventory of criteria air pollutants for project-level analyses, enough information regarding the buildout of the proposed General Plan 2040 is available to generate an inventory of criteria air pollutants to identify the magnitude of emissions.

Development of future projects within the Planning Area would be subject to the Town's standard CEQA review process and would be required to assess project-specific emissions in relation to the BAAQMD significance thresholds. The total net increase of residential land uses that could be developed with implementation of the General Plan 2040 was entered into the CalEEMod model and the calculated criteria air pollutants are shown in Table 3.2-11, below.

TABLE 3.2-11: PROJECT REGIONAL CONSTRUCTION CRITERIA POLLUTANT EMISSIONS (TONS/YEAR)

EMISSIONS TYPE	GENERAL PLAN 2040 AVERAGE DAILY EMISSIONS (LBS/DAY)	BAAQMD OPERATIONAL SIGNIFICANCE THRESHOLDS – AVERAGE DAILY EMISSIONS (LBS/DAY)	GENERAL PLAN 2040 ABOVE THRESHOLD?
ROG	5.1	54	No
NO_X	14.0	54	No
PM_{10}	0.5	82 (Exhaust)	No
$PM_{2.5}$	0.4	54 (Exhaust)	No

Notes: ADUs were modeled as Condos/Townhouses for the purposes of a conservative analysis. The decrease of non-residential land uses associated with the proposed General Plan 2040 was not modeled, for the sake of a conservative analysis.
Source: CalEEMod, v.2020.4.0

As shown in Table 3.2-11, emissions for construction activities associated with the General Plan 2040 would not exceed the applicable BAAQMD thresholds. Due to the scale of development activity associated with buildout of proposed General Plan 2040, cumulative emissions would also not exceed the BAAQMD regional significance thresholds. In accordance with the BAAQMD methodology, emissions that do not exceed the regional significance thresholds would not cumulatively contribute to the nonattainment designations of the SFBAAB. Emissions of VOC and NOx are precursors to the formation of O_3. In addition, NOx is a precursor to the formation of particulate matter (PM_{10} and $PM_{2.5}$). Therefore, the General Plan 2040 would not cumulatively contribute to the nonattainment designations of the SFBAAB for O_3 and particulate matter (PM_{10} and $PM_{2.5}$) during construction.

Separately, when applicable, potential future development under the General Plan 2040 would be subject to separate environmental review pursuant to CEQA. Any such subsequent environmental review of development projects would be required to assess potential impacts under BAAQMD's project-level thresholds based on site-specific construction phasing and buildout characteristics. Existing federal, State, and local regulations and goals, policies, and programs of the General Plan 2040 described throughout this chapter protect local and regional air quality. Continued compliance with these regulations would reduce construction-related impacts.

Furthermore, the General Plan 2040 includes policies and programs that reduce construction-related emissions. For instance, Conservation Policy C-22 requires the Town to minimize exposure of sensitive receptors to concentrations of air pollutant emissions, toxic air contaminants, and odors. Additionally, Program C-k requires the use of feasible control measures to reduce PM_{10}, NOx, and diesel particulate matter related to development, including during the construction and operational phases.

Operation

BAAQMD has identified thresholds of significance for criteria pollutant emissions and criteria air pollutant precursors, including VOC, NOx, PM_{10}, and $PM_{2.5}$. Development projects below

the significance thresholds are not expected to generate sufficient criteria pollutant emissions to violate any air quality standard or contribute substantially to an existing or projected air quality violation. According to BAAQMD's CEQA Guidelines, long-range plans, such as the proposed General Plan 2040, present unique challenges for assessing impacts. Due to the SFBAAB's nonattainment status for ozone and PM and the cumulative impacts of growth on air quality, these plans almost always have significant, unavoidable, adverse air quality impacts.

Implementation of the General Plan 2040 would result in an increase in development intensity in the Planning Area. Buildout of the General Plan 2040 would result in direct and indirect criteria air pollutant emissions from transportation, energy (e.g., natural gas use), and area sources (e.g., aerosols and landscaping equipment). Although BAAQMD's CEQA Air Quality Guidelines only require an emissions inventory of criteria air pollutants for project-level analyses, enough information regarding the buildout of the proposed General Plan 2040 is available to generate an inventory of criteria air pollutants to identify the magnitude of emissions. Table 3.2-12 identifies these emissions. Furthermore, subsequent environmental review of applicable development projects could be required to assess potential impacts under BAAQMD's project-level thresholds.

TABLE 3.2-12: PROJECT REGIONAL OPERATIONAL CRITERIA POLLUTANT EMISSIONS (TONS/YEAR)

EMISSIONS TYPE	GENERAL PLAN 2040 MAXIMUM ANNUAL EMISSIONS (TONS/YEAR)	BAAQMD OPERATIONAL SIGNIFICANCE THRESHOLDS – MAXIMUM ANNUAL EMISSIONS (TONS/YEAR)	GENERAL PLAN 2040 ABOVE THRESHOLD?
ROG	9.5	10	No
NO_X	2.5	10	No
PM_{10}	5.1	15	No
$PM_{2.5}$	1.9	10	No

Notes: ADUs were modeled as Condos/Townhouses in CalEEMod for the purposes of a conservative analysis. Additionally, the decrease of non-residential land uses associated with the proposed General Plan Update was not modeled, for the sake of a conservative analysis.
Source: CalEEMod, v.2020.4.0

The proposed Conservation chapter and Mobility chapter contain policies and programs that require local planning and development decisions to consider impacts to air quality. The following General Plan 2040 goal, policies, and programs would serve to minimize potential adverse impacts to air quality:

- Policy C-21 Implement the Clean Air Plan: Implement the Bay Area Air Quality Management District's Clean Air Plan by applying BAAQMD's rules, best control measures, and best management practices to construction, property maintenance, commercial operations, and other applicable activities.

- Program C-h Participate in Emission Reduction Efforts: Participate in efforts to voluntarily reduce activities that pollute on Spare the Air days and help publicize Spare the Air day activities.
- Program C-i Reduce Particulate Emissions: Promote the reduction of particulate matter from construction sites, roads, parking lots, and other sources through requiring development projects to implement best management practices (BMPs).
- Program C-j Reduce Air Quality Impacts of New Development: Review all development and infrastructure projects for potential air quality impacts to residences, congregate housing, schools, and other sensitive receptors. Ensure that mitigation measures and best management practices are implemented to reduce significant emissions of criteria pollutants to the greatest extent feasible.
- Policy C-22 Air Quality Impacts to Sensitive Receptors: Minimize exposure of sensitive receptors to concentrations of air pollutant emissions, toxic air contaminants, and odors.
- Program C-k Emission Reductions: Require the use of feasible control measures to reduce PM_{10}, NOx, and diesel particulate matter related to development, including construction and operational phases.
- Program C-l Zero Emission Landscape and Small Off-Road Equipment: Consider adoption of an ordinance requiring the use of zero emission landscape and small off-road equipment instead of gasoline and diesel-powered equipment in all residential and commercial areas.
- Policy C-23 Vehicle Emissions Reduction: Encourage the reduction of the number of single-occupant vehicle trips and cumulative emissions that result from auto use through implementation of Mobility Element policies.
- Policy M-65 Land Use and Transportation Priorities to Reduce VMT: Support and prioritize land uses and transportation provisions that help reduce VMT.
- Policy M-66 Circulation Improvements and VMT: Consider the effect of planned circulation improvements on VMT when updating the Town's capital improvement program.
- Policy M-67 Car Sharing and Bicycle Sharing: Support car sharing and bicycle sharing opportunities in Downtown Tiburon.

As shown in Table 3.2-12, buildout of the proposed General Plan 2040 would not generate a substantial increase in criteria air pollutant emissions that exceeds the BAAQMD regional significance thresholds for VOC, NOx, PM_{10}, and $PM_{2.5}$. In addition, it should be noted that the BAAQMD identifies screening sizes of development projects in the BAAQMD CEQA Guidelines. Development projects that are below the screening size are assumed to have less-than-significant impacts. Development projects that are larger than the screening size are required to demonstrate that the operational phase of the project would not exceed the BAAQMD thresholds of significance, as identified in the BAAQMD CEQA Guidelines.

Therefore, compliance with applicable policies and programs within the General Plan 2040 would contribute to minimizing long-term emissions. Overall, implementation of the proposed Tiburon General Plan 2040 would not exceed the BAAQMD significance thresholds for operation as shown in Table 3.2-12. Accordingly, implementation of the General Plan 2040 would not result in significant long-term regional air quality impacts. Therefore, this impact is considered ***less than significant***.

Applicable Proposed General Plan 2040 Policies and Implementation Actions
Conservation Element

Policy C-21 Implement the Clean Air Plan

Implement the Bay Area Air Quality Management District's Clean Air Plan by applying BAAQMD's rules, best control measures, and best management practices to construction, property maintenance, commercial operations, and other applicable activities.

Policy C-22 Air Quality Impacts to Sensitive Receptors

Minimize exposure of sensitive receptors to concentrations of air pollutant emissions, toxic air contaminants, and odors.

Policy C-23 Vehicle Emissions Reduction

Encourage the reduction of the number of single-occupant vehicle trips and cumulative emissions that result from auto use through implementation of Mobility Element policies.

Program C-h Participate in Emission Reduction Efforts

Participate in efforts to voluntarily reduce activities that pollute on Spare the Air days and help publicize Spare the Air day activities.

Program C-j Reduce Air Quality Impacts of New Development

Review all development and infrastructure projects for potential air quality impacts to residences, congregate housing, schools, and other sensitive receptors. Ensure that mitigation measures and best management practices are implemented to reduce significant emissions of criteria pollutants to the greatest extent feasible.

Program C-l Zero Emission Landscape and Small Off-Road Equipment

Consider adoption of an ordinance requiring the use of zero emission landscape and small off-road equipment instead of gasoline and diesel-powered equipment in all residential and commercial areas.

Program S-a Emissions Reduction Targets

Implement strategies to achieve reductions in greenhouse gas emissions at least 50 percent below 1990 levels by 2030, and to support the State's goal to achieve zero net emissions statewide by 2045.

Program S-c Monitoring Emissions

Periodically update the greenhouse gas emissions inventory for community and government operations emissions to track progress in reducing emissions and implementing the Climate Action Plan.

Program S-e Public Education

Educate the community on the impacts of climate change and actions individuals and businesses can take to reduce greenhouse gas emissions, shift to renewable energy and zero emission vehicles, reduce waste and water use, and adapt to climate change.

Program S-f Building and Appliance Electrification

Consider building regulations which preclude gas appliances and infrastructure in new buildings and regulations and require gas appliances to be replaced with high-efficiency electric at burnout.

Program S-g Municipal Energy Use

Evaluate solar energy production and storage systems at all municipal buildings and facilities and plan for replacement of natural gas appliances and equipment. Continue to purchase 100% renewable energy for Town buildings and facilities.

Program S-h Community Energy Use

Encourage residents and businesses to install solar energy production and storage systems by streamlining regulations and permit processes, or to purchase 100% renewable energy through energy providers.

Program S-i Green Building Regulations

Consider adopting green building regulations for new construction and building remodels and additions that exceed minimum State building and energy code requirements.

Program S-j Energy Efficiency Programs

Promote programs and incentives to property owners to improve energy efficiency. Consider requiring energy audits at time of building sale or major remodel.

Program S-k Zero Emission Vehicles

Implement a comprehensive program to significantly increase the use of zero emission vehicles through public education and promotion, adoption of building code requirements for electric vehicle charging facilities in new construction, and installation of Level 2 and 3 public charging facilities.

Program S-l Fleet Vehicle Replacements

Give priority to electric and zero emissions vehicles, as feasible, when replacing vehicles in the Town's fleet with the goal of achieving a zero-emissions fleet by 2030.

Program S-m Business Waste Management Plans

Require that businesses prepare and implement waste management plans to maximize recycling and food recovery and minimize disposal of organic waste where appropriate as a condition of approval of use permits.

Program S-n Organic Waste Reduction

Work with the Town's waste hauler and Zero Waste Marin to develop and implement programs to educate and motivate residents and business owners to increase recycling of materials and food recovery and reduce disposal of organic waste.

Program S-o Construction and Demolition Debris

Modify the solid waste disposal ordinance to maximize the recovery and recycling of construction debris consistent with the Marin Zero Waste model ordinance.

Program S-p Recycling Facilities

Provide sufficient recycling and composting bins for public and staff use.

Program S-q Environmentally Preferable Purchasing

Adopt municipal purchasing procedures to give preference to purchasing products that are recyclable, made from recycled materials, and minimize packaging.

Level of Significance before Mitigation

Less than Significant

Mitigation Measures

None Required

Impact 3.2-3 General Plan 2040 implementation could expose sensitive receptors to substantial pollutant concentrations.

The BAAQMD has identified local community risks from air pollutants to include exposure to TACs and $PM_{2.5}$ concentrations. TACs are a defined set of airborne pollutants that may pose a present or potential hazard to human health and $PM_{2.5}$ can cause a wide range of health effects (e.g., aggravating asthma and bronchitis, causing visits to the hospital for respiratory and cardiovascular systems, and contributing to heart attacks and deaths). Common stationary source types of TAC and $PM_{2.5}$ emissions include gasoline stations, dry cleaners, and diesel backup generators, which are subject to BAAQMD permit requirements. The other, often more significant, common source type is on-road motor vehicles on freeways and roads such as trucks and cars, and off-road sources such as construction equipment, ships, and trains. Stationary sources in the Town were identified using BAAQMD's Stationary Source Screening Analysis Tool. BAAQMD's Stationary Source Screening Analysis Tool identifies approximately 23 stationary sources within or near the Town.

Implementation of the General Plan 2040 would have the potential of introducing new sources of TAC and $PM_{2.5}$ emissions within the Town as well as siting new sensitive receptors, such as new homes in close proximity to existing sources of TAC and $PM_{2.5}$ emissions. The *Air Quality and Land Use Handbook: A Community Health Perspective*, adopted by the CARB, May 2005 was prepared to address the siting of sensitive land uses in close proximity to sources of TAC emissions that include the following sources within the Town:

- Within 500 feet of State Highway 131 (i.e. Tiburon Boulevard);
- Within 300 feet of dry cleaning operations that use perchloroethylene; and
- Within 50 feet of a typical gas station.

The General Plan 2040 includes policies and programs that would minimize exposure to TAC and $PM_{2.5}$ concentrations within the Town. These policies and programs are included within various elements of the General Plan 2040. For example, Policy C-22 requires the Town to minimize exposure of sensitive receptors to concentrations of air pollutant emissions, toxic air contaminants, and odors. Program C-j requires the Town to review all development and infrastructure projects for potential air quality impacts to residences, congregate housing, schools, and other sensitive receptors and ensure that mitigation measures and best management practices are implemented to reduce significant emissions of criteria pollutants to the greatest extent feasible. Program C-k require the use of feasible control measures to reduce PM_{10}, NOx, and diesel particulate matter related to development, including construction and operational phases. In addition, all new sources of TAC emissions within the Town would be required to obtain an Air Permit from BAAQMD that includes analysis of any TAC or $PM_{2.5}$ emissions created from the new source and the potential health impacts to the nearest sensitive receptor. The BAAQMD evaluates new sources of TAC emissions based on the following conditions:

- The extent to which the new source would increase risk levels, hazard index, and/or PM2.5 concentrations at nearby receptors,
- Whether the source would be permitted or non-permitted by the BAAQMD, and
- Whether the project would implement Best Available Control Technology for Toxics (T-BACT), as determined by BAAQMD.

Individual development projects would be required to provide their own environmental assessments to determine health impacts from the construction and operation of their projects. Although there are no uses proposed within the General Plan 2040 that are anticipated to generate TACs during operation, there exists the possibility that construction-related TACs could temporarily elevate concentrations of TACs and diesel-$PM_{2.5}$ in the vicinity of sensitive land uses during construction activities. Therefore, the impact is ***potentially significant***.

Applicable General Plan 2040 Policies and Implementation Actions
Conservation Element

Policy C-22 Air Quality Impacts to Sensitive Receptors

Minimize exposure of sensitive receptors to concentrations of air pollutant emissions, toxic air contaminants, and odors.

Program C-h Participate in Emission Reduction Efforts

Participate in efforts to voluntarily reduce activities that pollute on Spare the Air days and help publicize Spare the Air day activities.

Program C-i Reduce Particulate Emissions

Promote the reduction of particulate matter from construction sites, roads, parking lots, and other sources through requiring development projects to implement best management practices (BMPs).

Program C-j Reduce Air Quality Impacts of New Development

Review all development and infrastructure projects for potential air quality impacts to residences, congregate housing, schools, and other sensitive receptors. Ensure that mitigation measures and best management practices are implemented to reduce significant emissions of criteria pollutants to the greatest extent feasible.

Program C-k Emission Reductions

Require the use of feasible control measures to reduce PM_{10}, NOx, and diesel particulate matter related to development, including construction and operational phases.

Program C-l Zero Emission Landscape and Small Off-Road Equipment

Consider adoption of an ordinance requiring the use of zero emission landscape and small off-road equipment instead of gasoline and diesel-powered equipment in all residential and commercial areas.

Level of Significance before Mitigation

Potentially Significant

Mitigation Measures

MM 3.2-3 *Developers of individual development projects within the Planning Area that could result in significant toxic air contaminants during operation and/or construction that are located within 1,000 feet of a sensitive receptors(s), shall implement BAAQMD Guidelines and State Office of Environmental Health Hazard Assessment policies and procedures requiring Health Risk Assessments (HRAs) for residential development and other sensitive receptors. Screening area distances may be increased on a case-by-case basis if an unusually large source or sources of hazardous emissions are proposed or currently exist. Based on the results of the*

HRA, individual project applicants shall identify and implement measures (such as air filtration systems) to reduce potential exposure to particulate matter, carbon monoxide, diesel fumes, and other potential health hazards. Measures identified in HRAs shall be included into the site development plan as a component of each applicable individual development project.

Mitigation Measure 3.2-3 would require an HRA assessment for those individual projects that may result in additional toxic air contaminants and that are also located within 1,000 feet of a sensitive receptors(s).

In the event that future individual projects may expose sensitive receptors to TACs, these future projects would be required to implement mitigation to reduce the impact to a less than significant level, consistent with BAAQMD requirements. Therefore, with implementation of Mitigation Measure 3.2-3, impacts would be ***less than significant***.

Level of Significance after Mitigation

Less than Significant

Impact 3.2-4: General Plan 2040 implementation would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Under the BAAQMD CEQA Guidelines, a plan-level environmental analysis must identify locations of odor sources in the plan and identify goals, policies, and objectives to minimize potentially adverse impacts.

The proposed General Plan 2040 does not include any sources of objectionable odors or other emissions adversely affecting a substantial number of people. As stated in the BAAQMD CEQA Guidelines, land uses that typically produce objectionable odors include agricultural uses, wastewater treatment plants, food manufacturing plants, chemical plants, composting, refineries, landfills, and confined animal facilities. The General Plan 2040 does not include any such land uses. Rather, projected development in the General Plan 2040 would include typical residential, commercial, and industrial development, and would include uses that are not anticipated to produce objectionable odors.

Nevertheless, the General Plan 2040 includes Policy C-22 that minimizes exposure of sensitive receptors to concentrations of air pollutant emissions, toxic air contaminants, and odors. In addition, BAAQMD Regulation 7 limits emissions of odorous substances within the Air Basin, and would apply to any future odor source within the Planning Area. Therefore, compliance with the applicable policies and programs in the General Plan 2040 as well applicable BAAQMD rules and regulations, would minimize odor emissions from adversely affecting a substantial number of people within the Town and impacts would be ***less than significant***.

Applicable Proposed General Plan 2040 Policies and Implementation Actions
Conservation Element

Policy C-22 Air Quality Impacts to Sensitive Receptors

Minimize exposure of sensitive receptors to concentrations of air pollutant emissions, toxic air contaminants, and odors.

Level of Significance before Mitigation

Less than Significant

Mitigation Measures

None Required

Impact 3.2-5: General Plan 2040 implementation, in combination with other cumulative development, would not conflict with or obstruct implementation of the applicable air quality plan, or result in a cumulatively considerable net increase of criteria pollutants.

This analysis evaluates whether the impacts of the General Plan 2040, together with the impacts of cumulative development, would result in a cumulatively significant impact with respect to the potential for the project to conflict with or obstruct implementation of applicable air quality plans, or result in a cumulatively considerable net increase of criteria air pollutants.

The geographic context for changes in the air quality environment due to development under the General Plan 2040 would be both regional and local. Ozone and PM would be the primary pollutants of regional concern, meaning that the cumulative context would include entirety of the SFBAAB. Particulates (fugitive dust and fine particulate matter, including DPM) could result in localized impacts in close proximity to pollutant sources. In addition to the General Plan 2040, other nearby cities in the region such as Sausalito, San Francisco, and Oakland would develop through the General Plan 2040buildout year of 2040.

All jurisdictions are required to comply with applicable air quality plans (including the current AQMP, the 2017 Bay Area Clean Air Plan), which are prepared for the region as a whole. As such, cumulative development would comply with applicable air quality plans, and would not result in cumulatively considerable net increases of criteria pollutants. However, as described under Impact 3.2-1, there is no guarantee that the Project would be consistent with the growth projections contained within the 2017 Bay Area Clean Air Plan. Therefore, the cumulative impact would be ***significant and unavoidable*** and there are no feasible mitigation measures.

Level of Significance before Mitigation

Potentially Significant

Mitigation Measures
None Feasible

Level of Significance after Mitigation
Significant and Unavoidable

Impact 3.2-6: General Plan 2040 implementation, in combination with other cumulative development, would not expose sensitive receptors to substantial pollutant concentrations.

This analysis evaluates whether the impacts of the General Plan 2040, together with the impacts of cumulative development, would result in a cumulatively significant impact with respect to the potential for the Project to expose sensitive receptors to substantial pollutant concentrations.

The geographic context for changes in the air quality environment due to development under the General Plan 2040 would be both regional and local. Ozone and PM would be the primary pollutants of regional concern, meaning that the cumulative context would include entirety of the SFBAAB. Particulates (fugitive dust and fine particulate matter, including DPM) could result in localized impacts in close proximity to pollutant sources. In addition to the General Plan 2040, other nearby cities in the region such as Sausalito, San Francisco, and Oakland would develop through the General Plan 2040 buildout year of 2040.

Cumulative development could expose sensitive receptors to pollutant concentrations. Both construction-related and operational emissions could occur near sensitive receptors as buildout of the region occurs. For example, increased vehicular traffic could expose sensitive receptors to TAC. This would be a potentially significant cumulative impact.

Development anticipated under the General Plan 2040 could expose sensitive receptors to substantial pollutant concentrations. Development activity adjacent to sensitive receptors is possible, especially as residential uses are spread throughout the Town. The General Plan 2040 could have a cumulatively considerable contribution, and the cumulative impact would be **potentially significant**.

Level of Significance before Mitigation
Potentially Significant

Mitigation Measures
MM 3.2-6 *Implement Mitigation Measure 3.2-3.*

Mitigation Measure 3.2-3 requires developers of individual projects within the Planning Area that could result in significant toxic air contaminants during operation and/or construction that are located within 1,000 feet of a sensitive receptors(s), to implement BAAQMD Guidelines and State Office of Environmental Health Hazard Assessment policies and

procedures requiring Health Risk Assessments (HRAs) for residential development and other sensitive receptors. Therefore, the potential for sensitive receptors within the region to be exposed to substantial pollutant concentrations would be reduced to a ***less-than-significant*** cumulative impact.

Level of Significance after Mitigation
Less than Significant

Impact 3.2--7: General Plan 2040 implementation, in combination with other cumulative development, would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

This analysis evaluates whether the impacts of the General Plan 2040, together with the impacts of cumulative development, would result in a cumulatively significant impact with respect to the potential for the Project to result in other emissions (such as odors) to adversely affect a substantial number of people.

The geographic context for changes in the air quality environment due to development under the General Plan 2040 would be both regional and local. The cumulative context would include entirety of the SFBAAB, although other emissions (such as odors) tend to be local in their effects. As odors are typically site specific and localized, the exposure of objectionable odors and other emissions to a substantial number of people would be cumulatively ***less than significant***.

Level of Significance before Mitigation
Less than Significant

Mitigation Measures
None Required

3.3 BIOLOGICAL RESOURCES

3.3.1 PURPOSE

This section describes biological resources within the Town Planning Area and provides an analysis of potential impacts associated with implementation of the General Plan 2040 (Project). Potential impacts are identified and, mitigation measures to address potentially significant impacts are recommended, as necessary.

The Town's Planning Area is defined as all lands within the Town limits and Tiburon SOI, as well as the Highway 101 Tiburon Boulevard/East Blithedale Avenue interchange west of the northwestern SOI boundary and the open space land to the north of the northern SOI boundary on Ring Mountain.

Biological resources associated with the Planning Area were identified through a review of available background information, which included the following:

- Create Tiburon 2040: Existing Conditions Report;
- Tiburon Municipal Code; and
- California Department of Fish and Wildlife's (CDFW) Natural Diversity Data Base (CNDDB) for reported occurrences of special-status vegetation communities, plants, and animals.

One comment was received, by the CDFW, during the NOP comment period concerned about potential adverse impacts to biological resources. The CDFW indicates that this EIR should provide sufficient information regarding the environmental setting (habitat assessments for special-status plant, fish, and wildlife species) to understand the Project's, and its alternative's, potentially significant impacts on the environment (CEQA Guidelines, §§ 15125 & 15360).

Key Terms

The following key terms are used throughout this section to describe biological resources and the framework that regulates them:

Hydric Soils. One of the three wetland identification parameters, according to the Federal definition of a wetland, hydric soils have characteristics that indicate they were developed in conditions where soil oxygen is limited by the presence of saturated soil for long periods during the growing season. There are approximately 2,000 named soils in the United States that may occur in wetlands.

Hydrophytic Vegetation. Plant types that typically occur in wetland areas. Nearly 5,000 plant types in the United States may occur in wetlands. Plants are listed in regional publications of the U.S. Fish and Wildlife Service (USFWS) and include such species as cattails,

bulrushes, cordgrass, sphagnum moss, bald cypress, willows, mangroves, sedges, rushes, arrowheads, and water plantains.

Sensitive Natural Community. A sensitive natural community is a biological community that is regionally rare, provides important habitat opportunities for wildlife, is structurally complex, or is in other ways of special concern to local, State, or federal agencies. CEQA identifies the elimination or substantial degradation of such communities as a significant impact. The CDFW tracks sensitive natural communities in the CNDDB.

Special-Status Species. Special-status species are those plants and animals that, because of their recognized rarity or vulnerability to various causes of habitat loss or population decline, are recognized by federal, State, or other agencies. Some of these species receive specific protection that is defined by federal or State endangered species legislation. Others have been designated as "sensitive" on the basis of adopted policies and expertise of State resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities, and special districts to meet local conservation objectives. These species are referred to collectively as "special status species" in this report, following a convention that has developed in practice but has no official sanction. For the purposes of this assessment, the term “special status” includes those species that are:

- Federally listed or proposed for listing under the Federal Endangered Species Act (50 CFR 17.11-17.12);
- Candidates for listing under the Federal Endangered Species Act (61 FR 7596-7613);
- State listed or proposed for listing under the California Endangered Species Act (CESA) (14 CCR 670.5);
- Species listed by the USFWS as a species of concern or by the CDFW as a rare species or species of special concern;
- Fully protected animals, as defined by the State (California Fish and Game Code Section 3511, 4700, and 5050);
- Species that meet the definition of threatened, endangered, or rare under CEQA (CEQA Guidelines Section 15380);
- Plants listed as rare or endangered under the California Native Plant Protection Act (NPPA) (California Fish and Game Code Section 1900 et seq.); and
- Plants listed by the California Native Plant Society (CNPS) as rare, threatened, or endangered.[1]

Waters of the U.S. The Federal government defines waters of the U.S. as "lakes, rivers, streams, intermittent drainages, mudflats, sandflats, wetlands, sloughs, and wet meadows" [33 C.F.R. §328.3(a)]. Waters of the U.S. exhibit a defined bed and bank and ordinary high water mark (OHWM). The OHWM is defined by the USACE as “that line on shore established

[1] De Novo Planning Group, 2022. Existing Conditions Report.

by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" [33 C.F.R. §328.3(e)].

Wetlands. Wetlands are ecologically complex habitats that support a variety of both plant and animal life. The Federal government defines wetlands as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" [33 C.F.R. §328.3(b)]. Wetlands require wetland hydrology, hydric soils, and hydrophytic vegetation. Examples of wetlands include freshwater marsh, seasonal wetlands, and vernal pool complexes that have a hydrologic link to waters of the U.S.

3.3.2 ENVIRONMENTAL SETTING

The following information is primarily sourced from the Existing Conditions Report Conservation Chapter. Supplemental information is provided with a citation.

Bioregions

As discussed in the Existing Conditions Report Conservation Chapter, Tiburon is located within the Bay Area/Delta Bioregion. The Bay Area/Delta Bioregion is one of the most populous areas of the State, encompassing the San Francisco Bay Area and the Sacramento-San Joaquin River Delta. The Bay Area/Delta Bioregion extends from the Pacific Ocean to the Sacramento Valley and San Joaquin Valley bioregions to the northeast and southeast, and a short stretch of the eastern boundary joins the Sierra Bioregion at Amador and Calaveras counties. The bioregion is bounded by the Klamath/North Coast on the north and the Central Coast Bioregion to the south. The water that flows through the Delta supplies two-thirds of California's drinking water, irrigating farmland, and sustaining fish and wildlife and their habitat. The bioregion fans out from San Francisco Bay in a jagged semi-circle that takes in all or part of 12 counties: Alameda, Contra Costa, Marin, Napa, San Francisco, San Joaquin, San Mateo, Santa Clara, Solano, Sonoma, and parts of Sacramento and Yolo. The habitats and vegetation of the Bay Area/Delta Bioregion are as varied as the geography.

Vegetation

The Conservation Chapter of the Existing Conditions Report also discusses vegetation occurring within the Planning Area. Vegetation primarily consists of agricultural, ruderal, riparian, and landscaping vegetation. Because of the urban nature of the developed areas within Tiburon, there is limited undisturbed natural vegetation. Common plant species observed in the region include: wild oat (*Avena barbata*), rip-gut brome (*Bromus diandrus*), softchess (*Bromus hordeaceus*) alfalfa (*Medicago sativa*), Russian thistle (*Salsola tragus*), Italian thistle (*Carduus pycnocephalus*), rough pigweed (*Amaranthus retroflexus*), sunflower

(Helianthus annuus), tarragon (*Artemisia dracunculus*), coyote brush (*Baccharis pilularis*), prickly lettuce (*Lactuca serriola*), milk thistle (*Silybum marianum*), sow thistle *(Sonchus asper*), telegraph weed (*Heterotheca grandiflora*), barley (*Hordeum sp*.), mustard (*Brassica niger*), and heliotrope (*Heliotropium curassavicum*).

Wildlife

Agricultural and ruderal vegetation in the Tiburon Planning Area provides habitat for both common and special-status wildlife populations. For example, some commonly observed wildlife species in the region include: California ground squirrel (*Spermophilus beecheyi*), California vole (*Microtus californicus*), coyote (*Canis latrans*), raccoon (*Procyon lotor*), opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), red-tailed hawk (*Buteo jamaicensis*), northern harrier (*Circus cyaneus*), American kestrel (*Falco sparverius*), white-tailed kite (*Elanus leucurus*), American killdeer (*Charadrius vociferus*), gopher snake (*Pituophis melanoleucus*), garter snake (*Thamnophis species*), and western fence lizard (*Sceloporus occidentalis*), as well as many native insect species, as identified in the Existing Conditions Report. There are also several bat species in the region. Bats often feed on insects as they fly over agricultural and natural areas.

Locally common and abundant wildlife species are important components of the ecosystem. Due to habitat loss, many of these species must continually adapt to using agricultural, ruderal, and ornamental vegetation for cover, foraging, dispersal, and nesting.

Plant Communities

As noted in the Existing Conditions Report, agricultural and natural plant communities provide habitat for a variety of biological resources in the region. Sensitive habitats include those that are of special concern to resource agencies or those that are protected under a Habitat Conservation Plan, Natural Community Conservation Plan, CEQA, the Fish and Game Code, or the Clean Water Act (CWA). Additionally, sensitive habitats are usually protected under specific policies from local agencies. Figure 3.3-1, Land Cover Types, illustrates the plant communities (land cover types) in the vicinity of the Planning Area.

CA Wildlife Habitat Relationship System

The California Wildlife Habitat Relationships (CWHR) habitat classification scheme has been developed to support the CWHR System, a wildlife information system and predictive model for California's regularly occurring birds, mammals, reptiles, and amphibians. When first published in 1988, the classification scheme had 53 habitats. At present, there are 59 wildlife

habitats in the CWHR System: 27 tree, 12 shrub, 6 herbaceous, 4 aquatic, 8 agricultural, 1 developed, and 1 non-vegetated.[2]

As established in the Existing Conditions Report, the CWHR System identified 16 cover types (wildlife habitat classifications) in the Planning Area out of the 59 types in the State. These include: Annual Grassland, Barren, Closed-Cone Pine-Cypress, Coastal Oak Woodland, Coastal Scrub, Eucalyptus, Fresh Emergent Wetland, Lacustrine, Montane Hardwood-Conifer, Perennial Grassland, Saline Emergent Wetland, Urban, Valley Foothill Riparian, Valley Oak Woodland, Water, and Wet Meadow.

Table 3.3-1 identifies the total area by acreage for each cover type (classification) found in in the Planning Area. Figure 3.3-1 illustrates the location of each cover type (classification). A brief description of each cover type follows.

TABLE 3.3-1: COVER TYPES: CALIFORNIA WILDLIFE HABITAT RELATIONSHIP SYSTEM

Cover Type	Town of Tiburon	SOI (Acres)	Planning Area	Grand Total
Annual Grassland	407.93	76.82	139.59	624.34
Barren	45.58	0.67	1.11	47.36
Closed-Cone Pine-Cypress	74.05	0.00	0	74.05
Coastal Oak Woodland	552.06	294.36	34.72	881.14
Coastal Scrub	192.15	73.56	47.61	313.32
Eucalyptus	167.51	20.52	1.68	189.72
Fresh Emergent Wetland	1.56	5.78	0.22	7.56
Lacustrine	143.32	30.91	0.00	174.24
Montane Hardwood-Conifer	0.00	35.80	0.00	35.80
Perennial Grassland	58.96	8.52	87.49	154.96
Saline Emergent Wetland	5.74	0.00	0.00	5.74
Urban	1,366.48	281.65	36.31	1,684.44
Valley Foothill Riparian	1.33	0.00	0.00	1.33
Valley Oak Woodland	3.78	0.00	0.00	3.78
Water	6,745.48	118.31	0.00	6,863.80
Wet Meadow	<0.01	<0.01	0.22	0.22
SOURCE: De Novo Planning Group, 2022. Existing Conditions Report.				

Developed Cover Types

Urban habitats are not limited to any particular physical setting. Three urban categories relevant to wildlife are distinguished: downtown, urban residential, and suburbia. The heavily developed downtown is usually at the center, followed by concentric zones of urban residential and suburbs. There is a progression outward of decreasing development and

[2] California Wildlife Habitat Relationships (CWHR), 2023b. Wildlife Habitats- California Wildlife Habitat Relationships System. Available: https://wildlife.ca.gov/Data/CWHR/Wildlife-Habitats. Accessed January 31, 2023.

increasing vegetative cover. Species richness and diversity is extremely low in the inner cover. The structure of urban vegetation varies, with five types of vegetative structure defined: tree grove, street strip, shade tree/lawn, lawn, and shrub cover. A distinguishing feature of the urban wildlife habitat is the mixture of native and exotic species. Within the Planning Area, there are 1,650.34 acres of urban habitat.

Herbaceous Dominated Cover Types

Annual Grassland habitat occurs mostly on flat plains to gently rolling foothills. Climatic conditions are typically Mediterranean, with cool, wet winters and dry, hot summers. The length of the frost-free season averages 250 to 300 days. Within the Planning Area, there are 484.74 acres of annual grassland habitat.

Fresh Emergent Wetland habitats occur on virtually all exposures and slopes, provided a basin or depression is saturated or at least periodically flooded. They are most common on level to gently rolling topography. They are found in various depressions or at the edge of rivers or lakes. Soils are predominantly silt and clay, although coarser sediments and organic material may be intermixed. In some areas organic soils (peat) may constitute the primary growth medium. Climatic conditions are highly variable and range from the extreme summer heat to winter temperatures well below freezing. Within the Planning Area, there are 7.33 acres of fresh emergent wetland habitat.

Saline Emergent Wetland habitat occur along the margins of bays, lagoons, and estuaries sheltered from excessive wave action. At their lower margin they are exposed once every 24 hours; whereas, at their upper margin, submergence is short and infrequent, followed by weeks or months of continuous exposure. Characteristic or distinctive vascular plant species ranging from lower saline sites to higher or brackish sites are cordgrass, pickleweed, Humboldt cordgrass, glasswort, saltwort, jaumea, California seablite, seaside arrowgrass, alkali heath, seashore saltgrass, spearleaf saltweed, shoregrass, the endangered birdsbeak, common glasswort, sea-lavender, brass-buttons, saltmarsh dodder, gumweed, salt rush, tufted hairgrass, Pacific alkali bulrush, Olney bulrush, tule bulrush, California bulrush, common cattail, tropical cattail, cinquefoil, and coast carex. Frost-free days range from 330 to 365. Within the Planning Area, there are 5.74 acres of saline emergent wetland habitat.

Perennial Grassland habitat typically occurs on ridges and south-facing slopes, alternating with forest and scrub in the valleys and on north-facing slopes. Climatic conditions are under strong maritime influence. Perennial Grassland habitat of the coastal prairie form occurs along the California coast from Monterey County northward. It is found below 3,280 feet in elevation and seldom more than 62 miles from the coast. Relic perennial grasses within annual grassland habitat occur in patches throughout the State. Within the Planning Area, there are 67.48 acres of perennial grassland habitat.

Wet Meadow habitat occurs where water is at or near the surface most of the growing season, following spring runoff. Hydrologically, they occupy lotic, sunken concave, and hanging sites. Lotic sites frequently occur on rather steep slopes, and downstream runoff is the main output flow. Wet Meadows occur throughout virtually every forest type of the Sierra

and Pacific Northwest floristic provinces and as inclusions in the northern coastal prairie and sagebrush steppe. Swales in the valley and foothill grasslands occasionally provide conditions suitable for Wet Meadow species. Within the Planning Area, there are less than .01 acres of wet meadow habitat.

Tree-Dominated Cover Types

Coastal Oak Woodland habitats are common to mesic coastal foothills of California where moisture conditions are more favorable, such as north facing slopes and canyons, or higher elevations. Precipitation occurs in the milder winter months, almost entirely as rainfall, followed by warm to hot, dry summers. Near the coast, the summers are tempered by fogs and cool, humid sea breezes. Mean annual precipitation varies from about 40 inches in the north to about 15 inches in southern and interior regions. Mean minimum winter temperatures are 29 to 44 degrees Fahrenheit (F), and the mean maximum summer temperatures are 75 to 96 F. The growing season ranges from six months (180 frost-free days) in the north to the entire year in mild coastal regions to the south. The soils and parent material on which coastal oak woodlands occur are extremely variable. Within the Planning Area, there are 846.41 acres of Coastal Oak Woodland habitat.

Closed-Cone Pine-Cypress habitats are typically found on sites that are rockier and more infertile than the surrounding soils. Many stands are found on serpentine soils. Although, typically found at low elevations, due to the coastal distribution of much of this habitat type, interior stands may be found at elevations up to 6550 feet. Closed-cone pine-cypress occurs in patches as an interrupted forest along coastal California from southern San Diego county north to Oregon. Landforms are gentle to steep slopes where stands occur in interior California and coastal terraces or bluffs where distributed along coastal California. Within the Planning Area, there are 74.04 acres of Closed-Cone Pine-Cypress habitat.

Eucalyptus habitats generally adjoin a number of other wildlife habitats and are found at low elevations, where freezing is not a problem. Most eucalyptus have been artificially established, usually in and around urban/rural areas. Other habitats found in proximity to eucalyptus include cropland, valley foothill riparian, Orchard-vineyard, Coastal Scrub, Chamise Redshank Chaparral, Annual Grass, Pasture and Residential Park. Eucalyptus occurs in California from San Diego and Imperial counties in the south, usually at elevations below 1500 feet, but it has been found up 2100 feet; and to Shasta in the north. Eucalyptus habitats are found in locations with highly variable site characteristics. Generally, they are found on relatively flat or gently rolling terrain, occasionally in the foothills. Climatic conditions are typically referred to as Mediterranean, characterized by hot, dry summers and cool, mild winters. Precipitation ranges from approximately 12 inches to 24 inches. Temperature regimes in areas of eucalyptus groves range from a mean monthly low of 43 F in January to 73 F in August, with low temperatures occasionally reaching 32 to 25 F and high temperatures typically exceeding 100 F. Eucalyptus demonstrates the ability to withstand many temperature conditions, with the exception of prolonged cold or freezing weather. Within the Planning Area, there are 74.04 acres of Eucalyptus habitat.

Valley Foothill Riparian habitats are found in valleys bordered by sloping alluvial fans, slightly dissected terraces, lower foothills, and coastal plains. They are generally associated with low velocity flows, flood plains, and gentle topography. Valleys provide deep alluvial soils and a high water table. The substrate is coarse, gravelly, or rocky soils more or less permanently moist, but probably well aerated. Frost and short periods of freezing occur in winter (200 to 350 frost-free days). This habitat is characterized by hot, dry summers and mild and wet winters. Temperatures range from 75 to 102 F in the summer to 29 to 44 F in the winter. Average precipitation ranges from 6 to 30 inches, with little or no snow. The growing season is 7 to 11 months. Within the Planning Area, there are 1.33 acres of valley foothill riparian habitat.

Valley Oak Woodland habitat occurs in a wide range of physiographic settings but is best developed on deep, well-drained alluvial soils, usually in valley bottoms. Most large, healthy valley oaks are probably rooted down to permanent water supplies. Stands of valley oaks are found in deep sills on broad ridge-tops in the southern Coast Range. Where this type occurs near the coast, it is usually found away from the main fog zone. The climate is Mediterranean, with mild, wet winters and hot, dry summers. Remnant patches of this habitat are found in the Sacramento Valley from Redding south, in the San Joaquin Valley to the Sierra Nevada foothills, in the Tehachapi Mountains, and in valleys of the Coast Range from Lake County to western Los Angeles County. Usually, it occurs below 2000 feet. Within the Planning Area, there are 3.78 acres of valley oak woodland habitat.

Montane Hardwood-Conifer habitats range throughout California mostly west of the Cascade-Sierra Nevada crest. A typical montane hardwood habitat is composed of a pronounced hardwood tree layer, with an infrequent and poorly developed shrub stratum, and a sparse herbaceous layer. Elevations range from 300 feet near the Pacific Ocean. Annual precipitation varies from 110 inches in in the northern Coast Range to 36 inches. Within the Planning Area, there are 35.01 acres of montane hardwood habitat.

Shrub-Dominated Cover Types

Coastal Scrub habitats occur discontinuously in a narrow strip throughout the length of California. Two types of northern Coastal Scrub are usually recognized. The first type (limited in range) occurs as low-growing patches of bush lupine and many-colored lupine at exposed, oceanside sites. The second and more common type of northern Coastal Scrub usually occurs at less exposed sites. Here, coyote bush dominates the overstory. Within the Planning Area, there are 265.71 acres of coastal scrub habitat.

Aquatic Cover Types

Lacustrine habitats are inland depressions or dammed riverine channels containing standing water. These habitats may occur in association with any terrestrial habitats, Riverine, or Fresh Emergent Wetlands. They may vary from small ponds less than one acre to large areas covering several square miles. Depth can vary from a few inches to hundreds of feet. Typical lacustrine habitats include permanently flooded lakes and reservoirs, and intermittent lakes and ponds (including vernal pools) so shallow that rooted plants can grow

over the bottom. Most permanent lacustrine systems support fish life; intermittent types usually do not. Within the Planning Area there are 174.60 acres of lacustrine habitat.

Water habitat is similar to the marsh habitat. Water habitats are home to a variety of plants, fish, and wildlife. Within the Planning Area there are 6,867.15 acres of water habitat.

Other Cover Types

Barren habitat is defined by the absence of vegetation. Any habitat with less than 2 percent total vegetation cover by herbaceous, desert, or non-wildland species and less than 10 percent cover by tree or shrub species is defined this way. The physical settings for permanently barren habitat represent extreme environments for vegetation. An extremely hot or cold climate, a near-vertical slope, an impermeable substrate, constant disturbance by either human or natural forces, or a soil either lacking in organic matter or excessively saline can each contribute to a habitat being inhospitable to plants. Within the Planning Area, there are 46.25 acres of barren habitat.

Special-Status Species

The following discussion is based on the background search of special-status species that are documented in the CDFW CNDDB. The background search, conducted on January 30, 2023, was regional in scope and focused on the documented occurrences within 15 miles (9 U.S. Geological Survey [USGS] Quadrangles) of Tiburon.

Special-Status Plants

The search revealed documented occurrences of 93 special status plant species within approximately 15 miles of the Planning Area.

Table 3.3.-2 provides a list of special-status plant species that are documented within 15 miles of the Planning Area, and the current status. Figure 3.3-2*,* California Natural Diversity Database 9-Quad* Search*,* illustrates the special status species located within approximately 15 miles of the Planning Area.

TABLE 3.3-2: SPECIAL STATUS PLANTS PRESENT OR POTENTIALLY PRESENT (15 MILE)

PLANTS SPECIES COMMON NAME FEDERAL STATUS	PLANTS SPECIES COMMON NAME FEDERAL STATUS	PLANTS SPECIES COMMON NAME FEDERAL STATUS	STATE STATUS
Sanicula maritima	Adobe sanicle	None	Rare
Astragalus tener var. tener	Alkali milk-vetch	None	None
Malacothamnus arcuatus	Arcuate bush-mallow	None	None
Layia carnosa	Beach layia	Endangered	Endangered
Amsinckia lunaris	Bent-flowered fiddleneck	None	None
Gilia capitata ssp. Chamissonis	Blue coast gilia	None	None
Suaeda californica	California seablite	Endangered	None
Isocoma arguta	Carquinez goldenbush	None	None
Senecio aphanactis	Chaparral ragwort	None	None

PLANTS SPECIES COMMON NAME FEDERAL STATUS	PLANTS SPECIES COMMON NAME FEDERAL STATUS	PLANTS SPECIES COMMON NAME FEDERAL STATUS	STATE STATUS
Plagiobothrys chorisianus var. chorisianus	Choris' popcornflower	None	None
Calystegia pyrpurata ssp. Saxicola	Coastal bluff morning-glory	None	None
Coastal brackish marsh	Coastal brackist marsh	None	None
Coastal terrace prairie	Coastal terrace pririe	None	None
Cirsium occidentale var. compactum	Compact cobwebby thistle	None	None
Hemizonia congesta ssp. Congesta	Congested-headed hayfield tarplant	None	None
Gilia millefoliata	Dark-eyed gilia	None	None
Lathyrus jepsonii var jepsonii	Delta tule pea	None	None
Helianthella castanea	Diablo helianthella	None	None
Fritillaria liliacea	Fragrant fritiliry	None	None
Allium peninsulare var. franciscanum	Franciscan onion	None	None
Arctostaphylos franciscana	Franciscan manzanita	Endangered	N
Cirsium andrewsii	Franciscan thistle	None	None
Plagiobothrys glaber	hairless popcornflower	None	None
Horkelia cuneata var. sericea	Kellogg's horkelia	None	None
Hoita strobilina	Loma Prieta hoita	None	None
Spergularia macrotheca var. longistyla	long-styled sand-spurrey	None	None
Northern Coastal Salt Marsh	Northern Coastal Salt Marsh	None	None
Carex praticola	northern meadow sedge	None	None
Northern Maritime Chaparral	Northern Maritime Chaparral	None	None
Pleuropogon hooverianus	North Coast semaphore grass	None	Threatened
Navarretia rosulata	Marin County navarretia	None	None
Polygonum marinense	Marin knotweed	None	None
Hesperolinon congestum	Marin western flax	Threatened	Threatened
Microseris paludosa	marsh microseris	None	None
Arenaria paludicola	marsh sandwort	Endangered	Endangered
Fritillaria lanceolata var. tristulis	Marin checker lily	None	None
Lilaeopsis masonii	Mason's lilaeopsis	None	None
Arctostaphylos montaraensis	Montara manzanita	None	None
Streptanthus glandulosus ssp. pulchellus	Mt. Tamalpais bristly jewelflower	None	None
Arctostaphylos montana ssp. montana	Mt. Tamalpais manzanita	None	None
Cirsium hydrophilum var. vaseyi	Mt. Tamalpais thistle	None	None
Amorpha californica var. napensis	Napa false indigo	None	None
Monardella sinuata ssp. nigrescens	northern curly-leaved monardella	None	None
Polemonium carneum	Oregon polemonium	None	None
Viburnum ellipticum	oval-leaved viburnum	None	None
Arctostaphylos pacifica	Pacific manzanita	None	Endangered

PLANTS SPECIES COMMON NAME FEDERAL STATUS	PLANTS SPECIES COMMON NAME FEDERAL STATUS	PLANTS SPECIES COMMON NAME FEDERAL STATUS	STATE STATUS
Arctostaphylos pallida	pallid manzanita	Threatened	Endangered
Centromadia parryi ssp. parryi	pappose tarplant	None	None
Sidalcea calycosa ssp. rhizomata	Point Reyes checkerbloom	None	None
Horkelia marinensis	Point Reyes horkelia	None	None
Chloropyron maritimum ssp. palustre	Point Reyes salty bird's-beak	None	None
Clarkia franciscana	Presidio clarkia	Endangered	Endangered
Arctostaphylos montana ssp. ravenii	Presidio manzanita	Endangered	Endangered
Chorizanthe robusta var. robusta	robust spineflower	Endangered	None
Leptosiphon rosaceus	rose leptosiphon	None	None
Collinsia corymbosa	round-headed collinsia	None	None
Trifolium hydrophilum None None	saline clover	None	None
Arctostaphylos imbricata	San Bruno Mountain manzanita	None	Endangered
Chorizanthe cuspidata var. cuspidata	San Francisco Bay spineflower	None	None
Silene verecunda ssp. verecunda	San Francisco campion	None	None
Collinsia multicolor	San Francisco collinsia	None	None
Grindelia hirsutula var. maritima	San Francisco gumplant	None	None
Lessingia germanorum	San Francisco lessingia	Endangered	Endangered
Triphysaria floribunda	San Francisco owl's-clover	None	None
Plagiobothrys diffusus	San Francisco popcornflower	None	Endangered
Extriplex joaquinana	San Joaquin spearscale	None	None
Stebbinsoseris decipiens	Santa Cruz microseris	None	None
Holocarpha macradenia	Santa Cruz tarplant	Threatened	Endangered
Silene scouleri ssp. scouleri	Scouler's catchfly	None	None
Serpentine Bunchgrass	Serpentine Bunchgrass	None	None
Hesperevax sparsiflora var. brevifolia	short-leaved evax	None	None
Kopsiopsis hookeri	small groundcone	None	None
Chloropyron molle ssp. molle	soft salty bird's-bseeak	None	None
Symphyotrichum lentum	Suisun Marsh aster	None	None
Streptanthus batrachopus	Tamalpais jewelflower	None	None
Lessingia micradenia var. micradenia	Tamalpais lessingia	None	None
Quercus parvula var. tamalpaisensis	Tamalpais oak	None	None
Horkelia tenuiloba	thin-lobed horkelia	None	None
Eriogonum luteolum var. caninum	Tiburon buckwheat	None	None
Streptanthus glandulosus ssp. niger	Tiburon jewelflower	Endangered	Endangered
Calochortus tiburonensis	Tiburon mariposa-lily	Threatened	Threatened
Castilleja affinis var. neglecta	Tiburon paintbrush	Endangered	Threatened
Calamagrostis crassiglumis	Thurber's reed grass	None	None
Trifolium amoenum	two-fork clover	Endangered	None

PLANTS SPECIES COMMON NAME FEDERAL STATUS	PLANTS SPECIES COMMON NAME FEDERAL STATUS	PLANTS SPECIES COMMON NAME FEDERAL STATUS	STATE STATUS
Valley Needlegrass Grassland	Valley Needlegrass Grassland	None	None
Heteranthera dubia	water star-grass	None	None
Dirca occidentalis	western leatherwood	None	None
Pentachaeta bellidiflora	white-rayed pentachaeta	Endangered	Endangered
Triquetrella californica	Coastal triquetrella	None	None
Hypogymnia schizidiata	Island tube lichen	None	None
Arctostaphylos virgata	Marin manzanita	None	None
Fissidens pauperculus	Minute pocket moss	None	None
Dermatocarpon meiophyllizum	Silverskin lichen	None	None
SOURCE: California Dept. of Fish and Wildlife (CDFW), 2023a. California Natural Diversity Database (CNDDB), Species in 9 Quad Records Search. Available: https://wildlife.ca.gov/Data/CNDDB. Accessed January 30, 2023.			

Special-Status Animals

The search revealed documented occurrences of 84 special status animal species within approximately 15 miles of the Planning Area. While the CNDDB does not contain any official documented occurrences of bald eagles (*Haliaeetus leucocephalus*) within 15 miles of the Planning Area, it has been noted in the Existing Conditions Report that there have been recent sightings within Marin County, including the Tiburon Peninsula.

Table 3.3-3 provides a list of the special-status animal species that are documented within 15 miles of the Planning Area, and current status. Again, Figure 3.3-2, California Natural Diversity Database 9-Quad* Search, can be used to demonstrate the special status species located within 9 quadrangles, approximately 15 miles, of the Planning Area.

TABLE 3.3-3: SPECIAL STATUS ANIMALS PRESENT OR POTENTIALLY PRESENT (15 MILE)

ANIMAL SPECIES	COMMON NAME	FEDERAL STATUS	STATE STATUS
Amphibians			
Dicamptodon ensatus	California giant salamander	None	None
Rana draytonii	California red-legged frog	Threatened	None
Rana boylii	foothill yellow-legged frog	None	Endangered
Reptiles			
Masticophis lateralis euryxanthus	Alameda whipsnake	Threatened	Threatened
Thamnophis sirtalis tetrataenia	San Francisco gartersnake	Endangered	Endangered
Emys marmorata	western pond turtle	None	None
Fish			
Oncorhynchus kisutch pop. 4	coho salmon - central California coast ESU	Endangered	Endangered
Hypomesus transpacificus	Delta smelt	Threatened	Endangered
Thaleichthys pacificus	eulachon	None	None
Mylopharodon conocephalus	hardhead	None	None
Spirinchus thaleichthys	longfin smelt	Candidate	Threatened

ANIMAL SPECIES	COMMON NAME	FEDERAL STATUS	STATE STATUS
Archoplites interruptus	Sacramento perch	None	None
Pogonichthys macrolepidotus	Sacramento splittail	None	None
Eucyclogobius newberryi	tidewater goby	None	None
Acipenser medirostris pop.1	Green sturgeon- southern DPS	Threatened	None
Crustaceans and Mollusks			
Caecidotea tomalensis	Tomales isopod	None	None
Helminthoglypta nickliniana bridgesi	Bridges' coast range shoulderband	None	None
Vespericola marinensis	Marin hesperian	None	None
Tryonia imitator	mimic tryonia (California brackishwater snail)	None	None
Pomatiopsis binneyi	robust walker	None	None
Gonidea angulata	western ridged mussel	None	None
Insects			
Banksula incredula	incredible harvestman	None	None
Microcina leei	Lee's micro-blind harvestman	None	None
Calicina diminua	Marin blind harvestman	None	None
Microcina tiburona	Tiburon micro-blind harvestman	None	None
Talanites ubicki	Ubick's gnaphosid spider	None	None
Plebejus icarioides missionensis	Mission blue butterfly	None	None
Danaus plexippus pop. 1	monarch - California overwintering population	None	None
Bombus caliginosus	obscure bumble bee	None	None
Adela oplerella	Opler's longhorn moth	None	None
Cicindela hirticollis gravida	sandy beach tiger beetle	None	None
Microcina tiburona	Tiburon micro-blind harvestman	None	None
Bombus occidentalis	western bumble bee	None	None
Euphydryas editha bayensis	Bay checkerspot butterfly	Threatened	None
Lichnanthe ursina	bumblebee scarab beetle	None	None
Speyeria callippe	callippe silverspot butterfly	Endangered	None
Bombus crotchii	Crotch bumble bee	None	Candidate Endangered
Hydroporus leechi	Leech's skyline diving beetle	None	None
Callophrys mossii marinensis	Marin elfin butterfly	None	None
Callophrys mossii bayensis	San Bruno elfin butterfly	Endangered	None
Trachusa gummifera	San Francisco Bay Area leaf-cutter bee	None	None
Ischnura gemina	San Francisco forktail damselfly	None	None
Dufourea stagei	Stage's dufourine bee	None	None
Birds			
Melospiza melodia pusillula	Alameda song sparrow	None	None
Falco peregrinus anatum	American peregrine falcon	None	None

ANIMAL SPECIES	COMMON NAME	FEDERAL STATUS	STATE STATUS
Nycticorax nycticorax	black-crowned night heron	None	None
Laterallus jamaicensis coturniculus	California black rail	None	Threatened
Rallus obsoletus	California Ridgway's rail	Endangered	Endangered
Hydroprogne caspia	Caspian tern	None	None
Accipiter cooperii	Cooper's hawk	None	None
Phalacrocorax auritus	double-crested cormorant	None	None
Ardea herodias	great blue heron	None	None
Ardea alba	great egret	None	None
Circus hudsonius	northern harrier	None	None
Geothlypis trichas sinuosa	saltmarsh common yellowthroat	None	None
Melospiza melodia samuelis	San Pablo song sparrow	None	None
Asio flammeus	short-eared owl	None	None
Egretta thula	snowy egret	None	None
Elanus leucurus	white-tailed kite	None	None
Riparia riparia	bank swallow	None	Threatened
Nycticorax nycticorax	black-crowned night heron	None	None
Athene cunicularia	burrowing owl	None	None
Pandion haliaetus	osprey	None	None
Charadrius alexandrinus nivosus	western snowy plover	Threatened	None
Coturnicops noveboracensis	yellow rail	None	None
Xanthocephalus xanthocephalus	yellow-headed blackbird	None	None
Sternula antillarum browni	California least tern	Endangered	Endangered
Mammals			
Taxidea taxus	American badger	None	None
Scapanus latimanus insularis	Angel Island mole	None	None
Lasiurus cinereus	hoary bat	None	None
Erethizon dorsatum	North American porcupine	None	None
Antrozous pallidus	pallid bat	None	None
Zapus trinotatus orarius	Point Reyes jumping mouse	None	None
Reithrodontomys raviventris	salt-marsh harvest mouse	Endangered	Endangered
Sorex vagrans halicoetes	salt-marsh wandering shrew	None	None
Microtus californicus sanpabloensis	San Pablo vole	None	None
Enhydra lutris nereis	southern sea otter	Threatened	None
Scapanus latimanus parvus	Alameda Island mole	None	None
Nyctinomops macrotis	big free-tailed bat	None	None
Eumetopias jubatus	Steller (=northern) sea-lion	None	None
Sorex ornatus sinuosus	Suisun shrew	None	None
Corynorhinus townsendii	Townsend's big-eared bat	None	None

ANIMAL SPECIES	COMMON NAME	FEDERAL STATUS	STATE STATUS
Lasiurus blossevillii	western red bat	None	None
Lasionycteris noctivagans	Silver-haired bat	None	None
SOURCE: California Dept. of Fish and Wildlife (CDFW), 2023a. California Natural Diversity Database (CNDDB), Species in 9 Quad Records Search. Available: https://wildlife.ca.gov/Data/CNDDB. Accessed January 30, 2023.			

Sensitive Natural Communities

The California Department of Fish and Wildlife (CDFW) considers sensitive natural communities to have significant biotic value, with species of plants and animals unique to each community. As shown on Figure 3.3-3, Sensitive Natural Communities and Wetlands, the Planning Area contains several sensitive plant and animal communities. This includes coastal brackish marsh, salt marshes where a significant freshwater influx dilutes the seawater to brackish levels of salinity; coastal terrace prairie, a grassland plant community found along the Pacific Coast; and northern coastal salt marsh, a non-tidal, non-forested wetland that is continuously or frequently flooded and contains saltwater; and serpentine bunchgrass.[3]

All of these community types were once more widely distributed throughout California, but have been modified or destroyed by grazing, cultivation, and urban development. Since the remaining examples of these sensitive natural communities are under continuing threat from future development, CDFW considers them "highest inventory priorities" for future conservation.

Wildlife Movement Corridors

Wildlife movement corridors are a strip of natural habitat connecting populations of wildlife otherwise separated by cultivated land, roads, etc. As established in the Existing Conditions Report, a variety of wildlife corridors are identified in the Planning Area including but not limited to:

Riparian habitat. Riparian habitat often serves as essential wildlife corridors between habitat patches in an otherwise fragmented, urbanized landscape. For many animals, it is not only the quality of one patch of habitat, but also the ability to move among multiple habitat patches for example from uplands through the valley floor, that makes survival possible.

Foothill access. Foothill access to adjacent upland habitat or corridors for movement up and downstream is essential for many wildlife species, including amphibians that live in upland habitats but must move to aquatic habitats to breed.

[3] De Novo Planning Group, 2022. Existing Conditions Report.

Streams. Streams convey, filter, and store sediments and nutrients. Their floodplains recharge groundwater aquifers and control flooding. They also provide critical wildlife-movement corridors between important habitats for both water and land animals.

Wildlife Refuges

The purpose of wildlife refuges is to preserve lands and waters for the conservation, management and, where appropriate, restoration of the fish, wildlife and plant resources and their habitats within the United States for the benefit of present and future generations.

The Existing Conditions Report claims that the Richardson Bay Audubon Center & Sanctuary is a wildlife refuge located in the Planning Area along Richardson Bay. Comprised of 10.5 acres of uplands and 900 acres of subtidal bay, the center supports a variety of ecosystems. The sanctuary provides vital habitat for migratory waterbirds and other wildlife. The sanctuary is also part of many National Audubon Society nature centers, chapters, and programs focused on bird conservation and public engagement.

3.3.3 REGULATORY SETTING

Federal

Federal Endangered Species Act

The Federal Endangered Species Act, passed in 1973, defines an endangered species as any species or subspecies that is in danger of extinction throughout all or a significant portion of its range. A threatened species is defined as any species or subspecies that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Once a species is listed, it is fully protected from a "take" unless a take permit is issued by the United States Fish and Wildlife Service (USFWS). A take is defined as the harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct, including modification of its habitat (16 USC 1532, 50 CFR 17.3). Proposed endangered or threatened species are those species for which a proposed regulation, but not a final rule, has been published in the Federal Register.

Migratory Bird Treaty Act

To kill, posses, or trade a migratory bird, bird part, nest, or egg is a violation of the Federal Migratory Bird Treaty Act (FMBTA: 16 U.S.C., §703, Supp. I, 1989), unless it is in accordance with the regulations that have been set forth by the Secretary of the Interior.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 USC Section 668) protects these birds from direct take and prohibits the take or commerce of any part of these species. The USFWS administers the act, and reviews Federal agency actions that may affect these species.

Clean Water Act – Section 404

Section 404 of the Clean Water Act (CWA) regulates all discharges of dredged or fill material into Waters of the United States (WOTUS). Discharges of fill material includes the placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §323.2(f)]. The US Army Corps of Engineers (USACE) is the agency responsible for administering the permit process for activities that affect WOTUS. Executive Order 11990 is a Federal implementation policy, which is intended to result in no net loss of wetlands.

Clean Water Act – Section 401

Section 401 of the CWA (33 U.S.C. 1341) requires an applicant who is seeking a 404 permit to first obtain a water quality certification from the Regional Water Quality Control Board (RWQCB). To obtain the water quality certification, the RWQCB must indicate that the proposed fill would be consistent with the standards set forth by the State.

Department of Transportation Act - Section 4(f)

Section 4(f) has been part of Federal law since 1966. It was enacted as Section 4(f) of the Department of Transportation (DOT) Act of 1966 and set forth in Title 49 United States Code (U.S.C.), Section 1653(f). In January 1983, as part of an overall recodification of the DOT Act, Section 4(f) was amended and codified in 49 U.S.C. Section 303. This law established policy on Lands, Wildlife and Waterfowl Refuges, and Historic Sites as follows:

> *It is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites. The Secretary of Transportation shall cooperate and consult with the Secretaries of the Interior, Housing and Urban Development, and Agriculture, and with the States, in developing transportation plans and programs that include measures to maintain or enhance the natural beauty of lands crossed by transportation activities or facilities. The Secretary of Transportation may approve a transportation program or project (other than any project for a park road or parkway under section 204 of title 23) requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of a historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if: a) There is no prudent and feasible alternative to using that land; and b) The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.*

Rivers and Harbors Act of 1899

The Rivers and Harbors Act prohibits the obstruction or alteration of any navigable water of the United States. The Act requires authorization from the USACE for any excavation or deposition of materials into these waters or for any work that could affect the course, location, condition, or capacity of rivers or harbors.

State

Fish and Game Code Sections 2050-2097 - California Endangered Species Act (CESA)

The CESA protects certain plant and animal species when they are of special ecological, educational, historical, recreational, aesthetic, economic, and scientific value to the people of the State. CESA established that it is State policy to conserve, protect, restore, and enhance endangered species and their habitats.

CESA was expanded upon the original Native Plant Protection Act and enhanced legal protection for plants. To be consistent with Federal regulations, CESA created the categories of "threatened" and "endangered" species. It converted all "rare" animals into the Act as threatened species, but did not do so for rare plants. Thus, there are three listing categories for plants in California: rare, threatened, and endangered. Under State law, plant and animal species may be formally designated through official listing by the California Fish and Game Commission.

Fish and Game Code Sections 1900-1913 - California Native Plant Protection Act (NPPA)

In 1977, the State Legislature passed the NPPA in recognition of rare and endangered plants of the State. The intent of the law was to preserve, protect, and enhance endangered plants. The NPPA gave the California Fish and Game Commission the power to designate native plants as endangered or rare, and to require permits for collecting, transporting, or selling such plants. The NPPA includes provisions that prohibit the taking of plants designated as "rare" from the wild, and a salvage mandate for landowners, which requires notification of the CDFW 10 days in advance of approving a building site.

Fish and Game Code Sections 3503, 3503.5, 3800 - Predatory Birds

Under the California Fish and Game Code, all predatory birds in the order Falconiformes or Strigiformes in California, generally called “raptors,” are protected. The law indicates that it is unlawful to take, posses, or destroy the nest or eggs of any such bird unless it is in accordance with the code. Any activity that would cause a nest to be abandoned or cause a reduction or loss in a reproductive effort is considered a take. This generally includes construction activities.

Fish and Game Code Sections 1601-1603 – Streambed Alteration

Under the California Fish and Game Code, CDFW has jurisdiction over any proposed activities that would divert or obstruct the natural flow or change the bed, channel, or bank of any lake or stream. Private landowners or project proponents must obtain a “Streambed Alteration Agreement” from CDFW prior to any alteration of a lake bed, stream channel, or

their banks. Through this agreement, the CDFW may impose conditions to limit and fully mitigate impacts on fish and wildlife resources. These agreements are usually initiated through the local CDFW warden and will specify timing and construction conditions, including any mitigation necessary to protect fish and wildlife from impacts of the work.

Public Resources Code Section 21000 - California Environmental Quality Act (CEQA)

Public Resources Code Section 21000 of the California Environmental Quality Act (CEQA) establishes standards and regulations necessary for the maintenance and protection of the natural environment. It also identifies that a species that is not listed on the federal or State endangered species list may be considered rare or endangered if the species meets certain criteria. Under CEQA public agencies must determine if a project would adversely affect a species that is not protected by FESA or CESA. Species that are not listed under FESA or CESA, but are otherwise eligible for listing (i.e., candidate or proposed) may be protected by the local government until the opportunity to list the species arises for the responsible agency.

Species that may be considered for review are included on a list of "Species of Special Concern," developed by the CDFW. Additionally, the California Native Plant Society (CNPS) maintains a list of plant species native to California that have low numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. List 1A contains plants that are believed to be extinct. List 1B contains plants that are rare, threatened, or endangered in California and elsewhere. List 2 contains plants that are rare, threatened, or endangered in California, but more numerous elsewhere. List 3 contains plants where additional information is needed. List 4 contains plants with a limited distribution.

California Oak Woodland Conservation Act

The California Legislature passed Assembly Bill 1334, known as the California Oak Woodland Conservation Act, in 2001 as a result of widespread changes in land use patterns across the landscape that were fragmenting oak woodlands character over extensive areas. The Act created the California Oak Woodland Conservation Program within the Wildlife Conservation Board. The legislation provides funding and incentives to ensure the future viability of California's oak woodlands resources by maintaining large scale land holdings or smaller multiple holdings that are not divided into fragmented, nonfunctioning biological units. The Act acknowledged that the conservation of oak woodlands enhances the natural scenic beauty for residents and visitors, increases real property values, promotes ecological balance, provides habitat for over 300 wildlife species, moderates temperature extremes, reduces soil erosion, sustains water quality, and aids with nutrient cycling, all of which affect and improve the health, safety, and general welfare of the residents of the State.

California Wetlands Conservation Policy

In August 1993, the Governor announced the "California Wetlands Conservation Policy." The goals of the policy are to establish a framework and strategy that will:

- Ensure no overall net loss and to achieve a long-term net gain in the quantity, quality, and permanence of wetland acreage and values in California in a manner that fosters creativity, stewardship, and respect for private property.
- Reduce procedural complexity in the administration of State and federal wetland conservation programs.
- Encourage partnerships to make landowner incentive programs and cooperative planning efforts the primary focus of wetland conservation and restoration.

The Governor also signed Executive Order W-59-93, which incorporates the goals and objectives contained in the new policy and directs the Resources Agency to establish an Interagency Task Force to direct and coordinate administration and implementation of the policy.

Natural Community Conservation Planning Act

The Natural Community Conservation Planning Act provides long-term protection of species and habitats through regional, multi-species planning before the special measures of the CESA become necessary.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act authorizes the State Water Resource Control Board (SWRCB) to regulate state water quality and protect beneficial uses.

Local & Regional

Town of Tiburon General Plan 2020

The General Plan 2020 addresses the Town's existing biological resources and institutes resource protection measures in several chapters. The Open Space, Parks, and Recreation Chapter preserves existing resources by requiring development proposals include environmental assessment on sites that may contain sensitive biological resources, including wetlands, occurrences of special-status species and sensitive natural communities, native wildlife nurseries and nesting locations, and native wildlife movement corridors.

The Conservation Chapter aims to preserve and improve the quality of the environment through resource restoration and conservation, management, and pollution control.

Town of Tiburon Municipal Code

The Tiburon Municipal code establish standards and regulations related to the protection of "protected trees" (heritage trees, oak trees, and dedicated trees), and the removal of potentially hazardous trees through Chapter 15a, *Trees*, under Title IV, *Land Improvement and Use*. Chapter 15a regulates the removal, alteration, and planting of certain trees. Regulation of trees is based upon three general policies:

1. ecological importance, visual enhancement of the community, and their contribution to residential privacy and quietness: scenic importance, shade-creating, and privacy-

creating benefits; provide soil stability, noise buffering, and wind protection benefits, and can help prevent erosion and debris flow landslides on the hilly terrain.
2. protected trees" (heritage trees, oak trees, and dedicated trees
3. undesirable trees; potential breakage and fire hazards, or their potential for creating view blockage due to rapid growth and tall height at maturity
4. undeveloped properties and properties capable of further subdivision should be protected from unregulated removal of trees prior to the approval of development plans. Trees on such properties should be preserved so that they may be considered for incorporation into development plans.
5. private landscape; residents in single-family and two-family zones. In such zones, only the removal or alteration of "protected trees" and the planting of "undesirable trees" shall require permits.
6. special landscaping circumstances

Town of Tiburon Open Space Resource Management Plan

The Town owns and manages approximately 250 acres of open space distributed among 21 parcels. These open space areas vary considerably in size, vegetation, occurrence of special-status species, and proximity to residences. Nearly all of the parcels were either purchased outright by the Town for preservation purposes or were acquired as a result of open space dedications required by the Town for new development projects. The primary emphasis of the Open Space Resource Management Plan is management of vegetation and protection from non-native, invasive species of vegetation. Other topic areas such as erosion, fire hazard management, and passive recreation are also addressed in the Open Space Management Plan.

Town of Tiburon Guide to Policies for Trees Located on Town Property

The Guide was prepared in 2003 by the Town as a guide to the Town's policies and procedures involving trees. The Guide includes criteria for Town review of applications involving trees and shrubs on Town property; a sidewalk area diagram; and a procedure for tree alteration, removal, or planting.

The Guide establishes the policies with respect to trees and shrubs on Town property, including but not limited to parks, open spaces, and public street rights-of-way (including medians and islands). The Town's overarching policy is that trees and shrubs on Town property are resources that will not generally be removed or substantially altered without good cause. The Guide identifies conditions that warrant removal, including public safety hazards, disease, and damage to utilities and establishes a process for pruning of trees and shrubs.

Marin County Stream Conservation Area Ordinance

Marin County adopted the interim Stream Conservation Area (SCA) Ordinance in October 2013. It is intended to "protect the hydraulic function, habitat value, and water quality of streams." The Ordinance established an area where impacts to riparian and stream habitat

due to new development must be avoided or mitigated, as well as guidelines and procedures for obtaining a SCA permit.

The SCA Ordinance applies only to unincorporated areas within Marin County, so it may potentially have an influence only on areas adjacent to the Town.

San Francisco Bay Conservation and Development Commission

The San Francisco Bay Conservation and Development Commission (BCDC) has jurisdiction over all areas of San Francisco Bay that are subject to tidal action. Tidal action is defined by the shoreline that extends up to mean high water, except in marsh areas, where BCDC's jurisdiction extends to 5 feet above mean sea level. The BCDC also has "shoreline band" jurisdiction over an area 100 feet wide inland and parallel to the shoreline. For projects within BCDC jurisdiction, permits may be required, depending on the nature of the activity. Those projects requiring a permit must comply with the requirements of the McAteer-Petris Act and the Bay Plan.

The BCDC, established to both protect and direct development of the Bay and its shoreline, is a commission which regulates development along the waters of the Bay. Altogether, the Commission is charged with:

- Regulating all filling and dredging in San Francisco Bay (which includes San Pablo and Suisun Bays, sloughs and certain creeks and tributaries that are part of the Bay system, salt ponds and certain other areas that have been diked-off from the Bay);
- Protecting the Suisun Marsh, the largest remaining wetland in California, by administering the Suisun Marsh Preservation Act in cooperation with local governments;
- Regulating new development within the first 100 feet inland from the Bay to ensure that maximum feasible public access to the Bay is provided;
- Minimizing pressure to fill the Bay by ensuring that the limited amount of shoreline area suitable for high priority water-oriented uses is reserved for ports, water-related industries, water-oriented recreation, airports, and wildlife areas.
- Pursuing an active planning program to study Bay issues to ensure that Commission plans and policies are based upon the best available current information.
- Leading regionwide adaptation planning in light of rising sea level;
- Administering the federal Coastal Zone Management Act within the San Francisco Bay segment of the California coastal zone to ensure that federal activities reflect Commission policies.
- Participating in the regionwide program to administer a Long Term Management Strategy (LTMS) to ensure appropriate dredging and dredged materials disposal in San Francisco Bay; and,
- Participating in California's oil spill prevention and response planning program.

McAteer-Petris Act

The McAteer-Petris Act has long served as the key legal provision under California state law to preserve San Francisco Bay from indiscriminate filling. This law, enacted on September 17, 1965, established the San Francisco BCDC as a temporary state agency charged with preparing a plan for the long-term use of the Bay. In August 1969, the McAteer-Petris Act was amended to make BCDC a permanent agency and to incorporate the policies of the Bay Plan into state law.

San Francisco Bay Plan

The San Francisco Bay Plan (Bay Plan) guides BCDC's planning and actions for the area within its jurisdiction. The Bay Plan includes two primary parts: the policies to guide future uses of the Bay and shoreline, and the maps that apply these policies to the present Bay and shoreline. The Bay Plan addresses the following matters as specifically required by the law:

1. The results of the Commission's detailed study of the Bay;
2. The comprehensive plan adopted by BCDC for the conservation of the water of San Francisco Bay and the development of its shoreline;
3. BCDC's recommendation of the appropriate agency to maintain and carry out the Bay Plan;
4. BCDC's estimate of the approximate amount of money that would be required to maintain and carry out the provisions of the Plan for the Bay; and
5. Other information and recommendations BCDC deemed desirable.

BCDC has jurisdiction over five areas: the San Francisco Bay, a 100-foot shoreline band, salt ponds, managed wetlands, and certain waterways. The provisions of the Bay Plan pertaining to areas outside of the 100-foot shoreline band are advisory. In the Tiburon Planning Area, the Bay Plan applies to activities within San Francisco Bay and activities along the 100-foot shoreline band. The provisions of the Bay Plan pertaining to areas outside of the 100-foot shoreline band are advisory. There are no salt ponds, managed wetlands, or waterways under BCDC's jurisdiction in the Tiburon Planning Area.

Permit requirements are detailed in Title 7.2 of the California Government Code and Title 14, Division 5 of the California Code of Regulations. BCDC has the authority to approve projects with conditions that must be carried out as a part of the authorized project. According to BCDC's website, typical permit conditions include requirements to construct, guarantee, and maintain public access to the Bay, plan review requirements that must be met before construction can begin, and mitigation requirements to offset the adverse environmental impacts of proposed projects.

The Bay Plan establishes seven policies related to biological resources that address conservation of the Bay's tidal resources and native species and specifically address placement of fill and sediment. The Planning Area is located within the area addressed by Plan Map 4, which refers to the area as Central Bay North area. The Bay Plan establishes the following policies which apply to specific areas within the Planning Area:

30. Harbor Seal Haul-Out - Protect harbor seal haul-out and pupping site where harbor seals rest, give birth and nurse their young. Projects allowed only if protective of harbor seals and other sensitive wildlife.

31. Richardson Bay Special Area Plan – See Special Area Plan for detailed planning policies for the water are4a and shoreline north of a line drawn between Cavallo Point and Point Tiburon.

32. Angel Island State Park - Use only for camping, picnicking, water-oriented recreation. Access by boat only. Preserve boat slips and mooring buoys at Ayala Cove. No commercial uses except for convenience needs of park visitors. Preserve and interpret cultural, historical, and natural features of the island. Protect harbor seal haul-out and pupping site where harbor seals rest, give birth and nurse their young. Projects allowed only if protective of harbor seals and other sensitive wildlife.

33. Romberg Tiburon Center for Environmental Studies - If and when not needed by San Francisco State University, acquire, and develop for park. Expansion of Romberg Tiburon Center should be compatible with park use. Romberg Tiburon Center lands outside of the shoreline band should be developed consistent with recreation policy 4-b. Provide public access through the site to the shoreline.

Richardson Bay Special Area Plan

Richardson Bay provides a wide range of aquatic and wildlife habitats for abundant and diverse populations of fish and wildlife. Because of its location sheltered from strong tides and winds and close proximity to the Pacific Ocean, Richardson Bay is an area of high value for fish that spend part of their life in the ocean and part in an estuary, and for sea birds and migratory waterfowl as a refuge during winter storms. It is estimated that over 350,000 birds seek refuge during the winter months in the Audubon Society's wildlife sanctuary alone. Because of the shallowness of the Bay's water, many acres of mudflats are exposed at low tide providing important feeding areas for shorebirds and habitat for algae and small crustaceans. Moreover, Richardson Bay is one of the few areas in the San Francisco Bay system in which harbor seals reside and haul out.

Because of this, the BCDC recognized that the Richardson Bay is a unique and irreplaceable resource to the region. However, Richardson Bay has experienced increasing problems over the past years related to the protection of sensitive biological species and natural environments. In order to identify these problems to biological resources and offer recommended solutions, the Richardson Bay Special Area Plan was prepared to establish standards for development along the shores of Richardson Bay. Polices within the Richardson Bay Special Area Plan include:

1. The open water, marshes, and mud flats of Richardson Bay are particularly valuable wildlife habitat and should be afforded maximum protection. Eelgrass beds, important to herring spawning and for production of detritus, should also receive maximum protection.

2. Future shoreline developments adjacent to mud flats or tidal or diked marshes should provide a natural landscaped buffer area between the development and the shoreline. The buffer area should be a minimum of 20 to 40 feet wide, depending on the sensitivity of the wildlife and the density and intensity of development, and should be planted with native shrubs and trees such as coyote brush, toyon, and coast live oak.
3. The harbor seal haul-out area on Strawberry Spit should be further protected by buoys placed offshore of the haulout site during the haul-out season (November to April).
4. Open areas of Richardson Bay used as resting and feeding areas by migratory waterfowl during the winter should be protected from speeding boats through continued patrolling of the Audubon Society Sanctuary and by posting of notice of boat speed restrictions in upper Richardson Bay.
5. Any development within Richardson Bay should avoid destruction of marshes, mud flats, shellfish beds, and eelgrass beds. If such losses are unavoidable, the project should be authorized only if the minimum amount of habitat disturbance necessary to accomplish the purpose of the project occurs and the habitat loss is mitigated to the fullest extent. Mitigation should be within Richardson Bay, preferably at the development site, or if that is not feasible, at a site identified in the Tidal Restoration and Marsh Enhancement section of the Special Area Plan.

3.3.4 THRESHOLDS OF SIGNIFICANCE

Appendix G of the California Environmental Quality Act (CEQA) Guidelines contains the Initial Study Environmental Checklist, which includes questions related to biological resources. The issues presented in the Initial Study Environmental Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant environmental impact if it would:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

CEQA Guidelines Section 15065(a), Mandatory Findings of Significance, states that a project may have a significant effect on the environment if it would have "… the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare or threatened species …"

An evaluation of whether an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional and/or local context. Substantial impacts would be those that would substantially diminish or result in the loss of, an important biological resource or those that would obviously conflict with local, State, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally adverse but not significant because, although they would result in an adverse alteration of existing conditions, they would not substantially diminish or result in the permanent loss of an important resource on a population- or region-wide basis.

CEQA Guidelines Section 15380, *Endangered, Rare or Threatened Species*, states that a lead agency can consider a non-listed species to be Rare, Threatened, or Endangered for the purposes of CEQA if the species can be shown to meet the criteria in the definition of Rare, Threatened, or Endangered. For the purposes of this discussion, the current scientific knowledge on the population size and distribution for each special-status species was considered according to the definitions for Rare, Threatened, and Endangered listed in CEQA Guidelines Section 15380.

3.3.5 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

Impacts to biological resources resulting from implementation of the General Plan 2040 are discussed below. The impact analysis is based on information from the Environmental Setting and Regulatory Setting. Supplemental information is provided with a citation. Impacts to biological resources are assessed using the significance criteria established by the CEQA Guidelines. This analysis identifies the potential direct and indirect impacts to biological resources from construction, operation, and maintenance activities related to future development that could occur under the General Plan 2040.

Impact 3.3-1 **Development facilitated by the Project would not have a substantial adverse effect, either directly or through habitat modifications, on candidate, sensitive, or on special-status species.**

As discussed in the Environmental Setting, 93 special-status plant species and 84 special-status animal species have been recorded by the CNDDB to occur within 15 miles of the Planning Area. The special-status animal species include five bird species, four fish species, and two mammal species. Special-status plant and animal species receive protection from various federal and State laws and regulations, including FESA and CESA. These regulations generally prohibit the taking of protected plant and animal species, or direct impacts to foraging or breeding habitat, without a special permit.

The General Plan 2040 would enable development of new residential and non-residential uses; the General Plan proposes an increase of 916 residential units and a reduction of approximately 129,682 square feet of non-residential uses by 2040 buildout conditions. Subsequent development under the Project could result in the direct and/or indirect loss or indirect disturbance of special-status plant or animal species or their habitats that are known to occur, or have potential to occur, in the region.

Significant impacts on special-status plant species associated with individual site-specific projects could include the direct loss of individual plants and of habitat areas associated with these special-status plant species. Indirect impacts to special-status plant species could include habitat degradation or natural resource reduction. Significant impacts on special-status animal species associated with individual subsequent projects could include direct decrease in populations due to loss of breeding and foraging habitats.

To further protect and preserve natural habitats and species beyond State and federal standards, the General Plan 2040 includes policies and programs that are specifically designed to address potential impacts to biological resources. Conservation Policy C-3, Habitat Preservation, seeks to preserve and enhance the diversity of wildlife and aquatic habitat found throughout the Planning Area. To support Policy C-3, Conservation Chapter Policy C-4, New Development, indicates that access to environmentally sensitive marshland, and adjacent habitat, during times of constructions and development shall be restricted, especially during spawning and nesting seasons. Policy C-13, Development Impacts on Special-Status Species and Sensitive Habitats, assures that new development does not have a significant adverse effect of special status species or sensitive natural communities to the extent feasible and as regulated by federal and state laws. Policy C-15 Woodland Protection, further protects natural habitats and wooded areas.

In addition to Conservation-based policies, the General Plan 2040 Open Space, Parks, and Recreation Chapter provides policies and programs that ensure new development respects the ecological benefits of natural areas that serve as habitat and erosion protection. Open Space Program OS-a, Environmental Constraints Assessment, requires applicants to demonstrate that proposals for development minimize environmental impacts and comply

with the General Plan and applicable regulations, ordinances, and guidelines; and requires preparation of an assessment of environmental constraints that adequately addresses CEQA regulations, including those associated with biological resources. Program OS-c, Environmental Assessment, requires an environmental assessment for development proposed on sites that may contain sensitive biological resources, including wetlands, occurrences of special-status species and sensitive natural communities, native wildlife nurseries and nesting locations, and native wildlife movement corridors. The assessment would be required to be conducted by a qualified professional to determine which, if any, sensitive resources which could be affected by proposed development; would provide an assessment of the potential impacts; and, would define measures to avoid significant adverse impacts to the resource. The applicant would then be required to implement feasible measures to avoid or, if avoidance is not feasible, reduce, significant adverse impact. Future development under the General Plan 2040 would be subject to these policies and programs.

Further, future development under the Project would comply with the various local, State, and, federal laws and regulations that protect special-status plant and animal species, including FESA and CESA. Therefore, with adherence to the General Plan 2040 policies and programs, and local, State, and federal regulations, future development would not result in significant adverse effects to biological resources and impacts would be less than significant. As such, impacts from implementation of the Project would be considered ***less than significant*** relative to this topic.

Level of Significance before Mitigation
Less than Significant

Mitigation Measures
None required

Impact 3.3-2 **Development facilitated by the Project would not have a substantial adverse effect on riparian habitats, other sensitive natural communities, federally protected wetlands, or waters of the United States and/or State, through direct removal, filling, or hydrological interruption.**

As discussed in Environmental Setting, the CNDDB search revealed four sensitive natural communities within 15 miles of Tiburon. This includes coastal brackish marsh, salt marshes where a significant freshwater influx dilutes the seawater to brackish levels of salinity; coastal terrace prairie, a grassland plant community found along the Pacific Coast; northern coastal salt marsh, a non-tidal, non-forested wetland that is continuously or frequently flooded and contains saltwater; and serpentine bunchgrass.

The General Plan 2040 would enable development of new residential and non-residential uses. While no site-specific projects are proposed at this time, subsequent development under the Project could have a substantial adverse effect on riparian habitats, other sensitive

natural communities, federally protected wetlands, or waters of the United States and/or State, through direct removal, filling, or hydrological interruption.

While not always documented as sensitive natural communities in the CNDDB, streams, rivers, and estuaries are of high concern because they provide unique aquatic habitat for many endemic species, including special-status plants, birds, invertebrates, amphibians, and fish species. These aquatic habitats oftentimes qualify as protected wetlands or jurisdictional waters and are protected from disturbance through the Clean Water Act. Subsequent development under the Project, primarily within close proximity to Richardson's Bay, could result in direct or indirect effects on estuarine habitat and other sensitive marine communities.[4]

Riparian habitats and sensitive natural communities receive protection under the California Fish and Game Code (FGC §§ 1601–1603). Any proposed activities that would divert or obstruct the natural flow or change the bed, channel, or bank of any lake or stream, must obtain a "Streambed Alteration Agreement" from CDFW prior to any alteration of a lake bed, stream channel, or their banks. Through this agreement, the CDFW may impose conditions to limit and fully mitigate impacts on fish and wildlife resources.[5]

Section 404 of the Clean Water Act requires any project that involves disturbance to a wetland or waters of the United States to obtain a permit that authorizes the disturbance. If a wetland or jurisdictional water is determined to be present, then a permit must be obtained from the US Army Corp of Engineers (USACE) to authorize a disturbance to the area. Although subsequent projects may disturb protected wetlands and/or jurisdictional waters, the regulatory process that is established through Section 404 of the Clean Water Act ensures that there is "no net loss" of wetlands or jurisdictional waters. If, through the design process, it is determined that a future development project cannot avoid a wetland or jurisdictional water, then the USACE would require that there be an equal amount of wetland created elsewhere to mitigate any loss of wetland.

Section 401 of the Clean Water Act (33 USC § 1341) requires an applicant who is seeking a 404 permit to first obtain a water quality certification from the Regional Water Quality Control Board (RWQCB). To issue a water quality certification, the RWQCB must indicate that the proposed fill is consistent with the standards set forth by the State.

Further, the General Plan 2040 includes policies and programs designed to protect sensitive natural communities, as well as protect wetlands, waters of the United States and, waters of the State. General Plan Conservation Chapter Policy C-6, Wetlands Setbacks, subsequent Program (Program C-a, Wetland and Streamside Regulations), as well as Policy C-7, Construction in Jurisdictional Waters and Wetlands, establish local wetland and waters development regulations, and require all construction to, at the minimum, comply with all

[4] De Novo Planning Group, 2022. Existing Conditions Report.

[5] California Dept. of Fish and Wildlife (CDFW), 2023b. Lake and Streambed Alteration Program. Available https://wildlife.ca.gov/Conservation/Environmental-Review/LSA . Accessed January 31, 2023.

federal and State regulations regarding jurisdictional waters and wetlands. Conservation Policies C-8 and C-9 monitor development so as to ensure preservation of freshwater habitats in the bayfront areas; and require open space buffers where streams are present. Further, Conservation Policies C-2, C-3, and C-12, focus generally on aquatic habitat and sensitive area preservation. In addition, Open Space Program OS-c, Environmental Assessment, requires an environmental assessment for development proposed on sites that may contain sensitive biological resources, including wetlands, occurrences of natural communities, and native wildlife nurseries and nesting locations. The assessment would be required to be conducted by a qualified professional to determine which, if any, sensitive resources which could be affected by proposed development; would provide an assessment of the potential impacts; and, would define measures to avoid significant adverse impacts to the resource.

Beyond Town-wide regulations, Marin County adopted an interim SCA Ordinance in October 2013, with the intention to protect the hydraulic function, habitat value, and water quality of streams in the County. However, the SCA Ordinance applies only to unincorporated areas within Marin County, so it may potentially have an influence only on areas adjacent to the Town.; still within the Planning Area, in the Sphere of Influence.[6]

Future development under the Project would comply with adopted federal, State, and local regulations for the protection of sensitive natural communities, including riparian habitat, wetlands, and waters. Therefore, with mandatory regulatory compliance, future development would not result in significant adverse effects to riparian habitat, other sensitive natural communities, federally protected wetlands, waters of the United States, or waters of the State. Impacts would be considered ***less than significant*** under this criterion.

Level of Significance before Mitigation
Less than significant

Mitigation Measures
None required

Impact 3.3-3 **Development facilitated by the Project would not interfere substantially with the movement of any native resident or migratory fish, or wildlife, species or, with established native resident or migratory wildlife corridors or, impede the use of native wildlife nursery sites.**

As presented in the Existing Conditions Report Conservation Chapter, Tiburon is located on the Tiburon Peninsula, surrounded on three sides by the San Francisco Bay, Raccoon Straits, and Richardson Bay. From the San Francisco Bay, the Tiburon Peninsula rises steeply to the Tiburon Ridge. The southwest facing side of the Tiburon Peninsula, overlooking Richardson

[6] Marin County Board of Supervisors, 2013. Draft Marin Stream Conservation Area Ordinance Revised per Board of Supervisors Hearing, October 29, 2013.

Bay, consists primarily of open spaces and sloping grasslands. The north-facing side, overlooking San Francisco Bay and San Pablo Bay is sparsely developed and steep with dense tree cover over much of the area. And, as described in the Environmental Setting, riparian habitats, foothill access areas, and streams, are found within Town limits and serve as wildlife corridors. In addition, the urban forest canopy can support movement of a variety of migratory bird species, while open space areas, creeks, and un-named drainages could serve as aquatic and terrestrial wildlife migration corridors within the Planning Area.

The General Plan 2040 would enable development of new residential and non-residential uses. While no site-specific projects are proposed at this time, subsequent development under the Project could interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

However, many of the General Plan 2040 policies aim to protect species movement and habitat corridors. General Plan 2040 Conservation Policy C-4 states that development shall not encroach into sensitive wildlife habitats, limit normal range areas, or create barriers to wildlife that cut off or substantially impede access to food, water, or shelter, or cause damage to fisheries or fish habitats; and access to environmentally sensitive marshland and adjacent habitat is to be restricted, especially during spawning and nesting seasons. Policy C-9, Stream Setbacks, requires open space buffers be implemented to minimize disturbance of natural vegetation and maintain the environmental integrity of movement corridors.

Further, Open Space Program OS-c, Environmental Assessment, requires an environmental assessment for development proposed on sites that may contain sensitive biological resources, including wetlands, occurrences of special-status species and sensitive natural communities, native wildlife nurseries and nesting locations, and native wildlife movement corridors. The assessment would be required to be conducted by a qualified professional to determine which, if any, sensitive resources which could be affected by proposed development; would provide an assessment of the potential impacts; and, would define measures to avoid significant adverse impacts to the resource.

Future development under the Project would comply with adopted State, federal, and local regulations for the protection of biological resources, including General Plan 2040 policies and programs. Therefore, future development would not result in significant adverse effects to wildlife corridors or native wildlife nursery sites, nor would it interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors. As such, impacts would be considered ***less than significant***.

Level of Significance before Mitigation
Less than Significant

Mitigation
None required

Impact 3.3-4 **Development facilitated by the Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.**

The General Plan 2040 would enable development of new residential and non-residential uses. While no site-specific projects are proposed at this time, subsequent development under the Project could potentially conflict with local ordinances.

Future development associated with the implementation of the Project would be subject to all applicable local policies and regulations related to the protection of important biological resources. Specifically, development under the General Plan 2040 would be required to comply with the City's Tree Ordinance. Chapter 15A, Trees, of the Municipal Code acknowledges the contribution of trees to the character and beauty of the City and as such, regulates the planting, removal or alteration of such trees through the provision of permits. Section 15A-3 of the Chapter defines when a when a permit is required, and Section 15A-4 defines instances of exceptions from permits.

General Plan 2040 Conservation Program C-b, Tree Preservation, under Policy C-14, Tree Protection, considers revising and expanding the Tiburon Tree Ordinance to provide protection of both individual trees and native woodlands. Further, Policy C-15, Woodland Protection, aims to protect natural habitat, and natural wooded areas to the maximum extent feasible.

Further, the Town has adopted the Town of Tiburon Guide to Policies for Trees Located on Town Property. The Guide's overarching policy is that trees and shrubs within the Planning Area are resources that are generally not to be removed or substantially altered without good cause. The Guide identifies conditions that warrant removal, including public safety hazards, disease, and damage to utilities and establishes a process for pruning of trees and shrubs.

Future development would be subject to these local, mandatory tree preservation requirements. Therefore, the potential impacts regarding conflicts with local policies or ordinances protecting biological resources would be ***less than significant***.

Level of Significance before Mitigation
Less than Significant

Mitigation Measures
None required

Impact 3.3-5 **Development facilitated by the Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.**

The General Plan 2040 would enable development of new residential and non-residential uses. As discussed in Regulatory Setting, there are several conservation plans in affect within the Tiburon area, including: San Francisco Bay Plan (Bay Plan), Richardson Bay Special Area Plan, and the Town of Tiburon Open Space Resource Management Plan.

Protection of the San Francisco Bay and enhancement of its shoreline are the key components of the Bay Plan. As such, the San Francisco Bay Conservation and Development Commission (BCDC) has been authorized by the State (under the McAteer-Petris Act) to control both the Bay filling and dredging and Bay-related shoreline development. Various methods, mitigation measures, and alternative designs are provided in the Bay Plan to ensure development projects protect and enhance the Bay. The Town jurisdiction encompasses the Tiburon Peninsula and Angel Island, and includes portions of the Raccoon Strait and San Francisco Bay. As the BCDC has jurisdiction over all areas of the San Francisco Bay that are subject to tidal action and, "shoreline band" jurisdiction, development in the Town must adhere to the BCDC Bay Plan.[7]

The Richardson Bay Special Area Plan establishes standards for development along the shores of Richardson Bay. While no site-specific development is proposed under the Project, potential development and redevelopment associated with the implementation of the Project would be required to adhere to the Richardson Bay Special Area Plan, if the project were to be located within proximity.

The primary emphasis of the Open Space Resource Management Plan is adequate management of vegetation and protection from non-native, invasive species of vegetation. According to the Land Use, Growth, and Environmental Justice Chapters of the Existing Conditions Report, there are currently 797 acres of Open Space within Tiburon and the Sphere of Influence. The General Plan 2040 proposes to have 801 acres dedicated as Open Space. As the Project does not propose to reduce the amount of Open Space, but rather increase it, nor does it propose any site-specific development that could harm vegetation at this time, implementation would not conflict with the Open Space Resource Management Plan.

As such, implementation of the Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. The Project would have a ***less-than-significant impact*** relative to this topic.

[7] San Francisco Bay Conservation & Development Commission (BCDC) (2023). San Francisco Bay Plan. Available https://www.bcdc.ca.gov/plans/sfbay_plan.html. Accessed January 31, 2023.

Level of Significance before Mitigation
Less than Significant

Mitigation Measures
None required

Impact 3.3-6 Development facilitated by the Project, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to biological resources.

The geographic context for analysis of cumulative impacts to biological resources includes the incorporated and unincorporated lands surrounding the Planning Area. This analysis evaluates whether the impacts of the Project, together with the impacts of cumulative development, would result in a cumulatively significant impact on special-status species; wetlands and other Waters of the United States and/or State; or other biological resources protected by federal, State, or local regulations or policies. This analysis then considers whether incremental contribution to cumulative impacts associated with the implementation of the Project would be significant. Both conditions must apply for a project's cumulative effects to rise to the level of significance.

Cumulative development within unincorporated Marin County is identified in the Marin Countywide Plan Update Final EIR. Cumulative development contributes to an incremental reduction in the amount of existing wildlife habitat, particularly for birds and larger mammals. Habitat for species intolerant of human disturbance can be lost as development encroaches into previously undeveloped areas, disrupting or eliminating movement corridors, and fragmenting the remaining suitable habitat retained within parks, private open space, or undeveloped properties. New development in the region could eventually result in further conversion of existing natural habitats to urban and suburban conditions, limiting the existing habitat values of the surrounding area. This could include further loss of wetlands and sensitive natural communities, reduction in essential habitat for special-status species, removal of mature native trees and other important wildlife habitat features, and obstruction of important wildlife movement corridors. Additional development may also contribute to degradation of the aquatic habitat found in the Richardson's and San Francisco Bays.

As described in Regulatory Setting, numerous laws and regulations are in place to protect biological resources, including, but not limited to, CESA, FESA, and the Clean Water Act. The BCDC has jurisdiction over all areas of San Francisco Bay that are subject to tidal action. Development facilitated future projects within the cumulative geographic context, would be required to comply with federal, State, and local laws and policies and all applicable permitting requirements of the regulatory and oversight agencies intended to address potential impacts on biological resources. Because cumulative development would be required to comply with the above requirements, as well as the overall land use vision, design review regulations and policies in local and regional plans, including the Marin Countywide

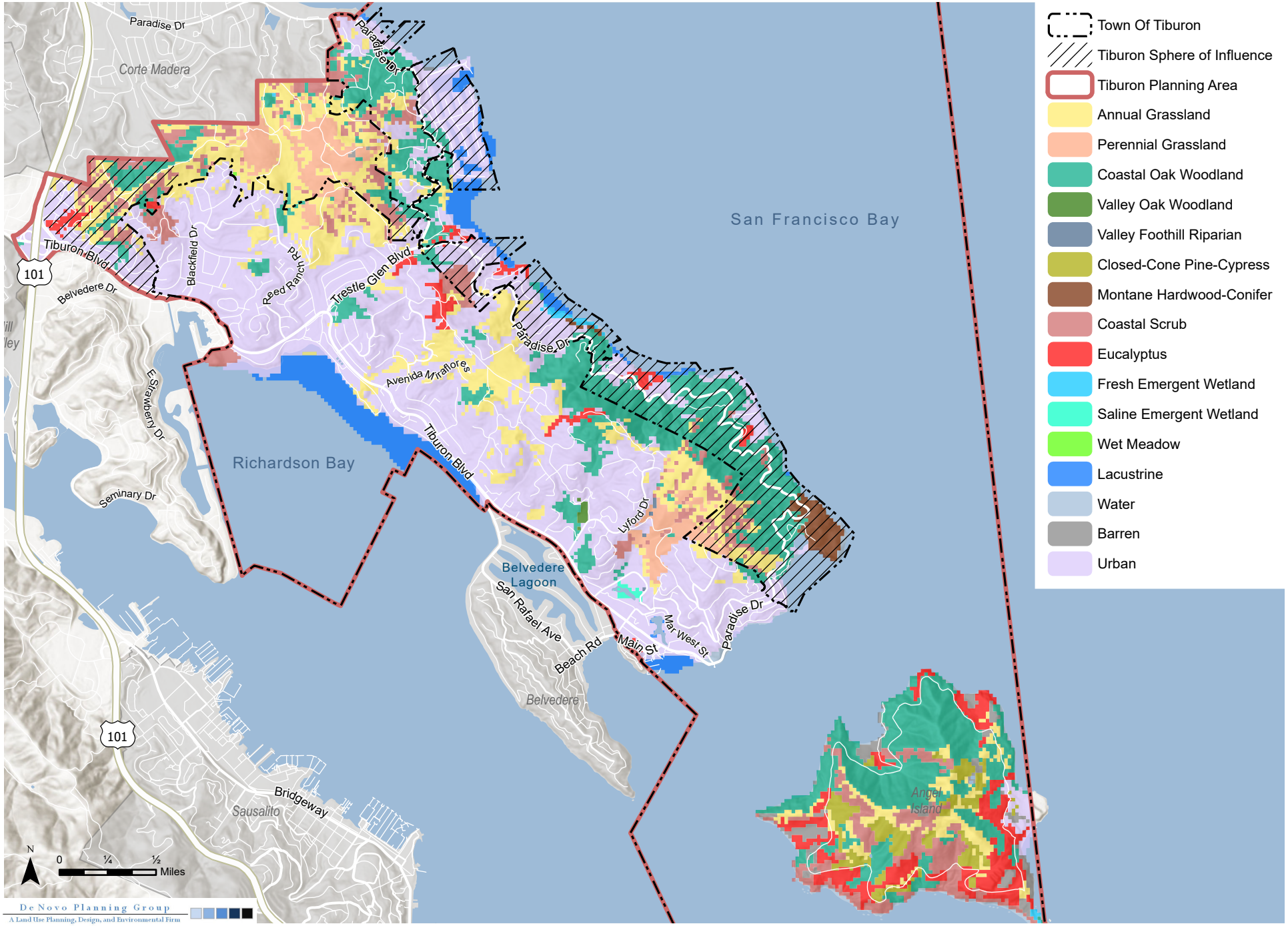
Plan and Marin County Development Code, cumulative biological impacts will be ***less than significant***.

As discussed, the Project proposes no substantive changes in land use that would result in significant impacts to biological resources. Future development projects associated with the General Plan 2040 would be required to comply with established local, State, and federal regulations and demonstrate that biological resources would not be significantly affected. Therefore, implementation of the Project would not result in a considerable incremental contribution to cumulative impacts to biological resources; the Project's contribution to cumulative impacts would be ***less than significant***.

Level of Significance before Mitigation
Less than Significant

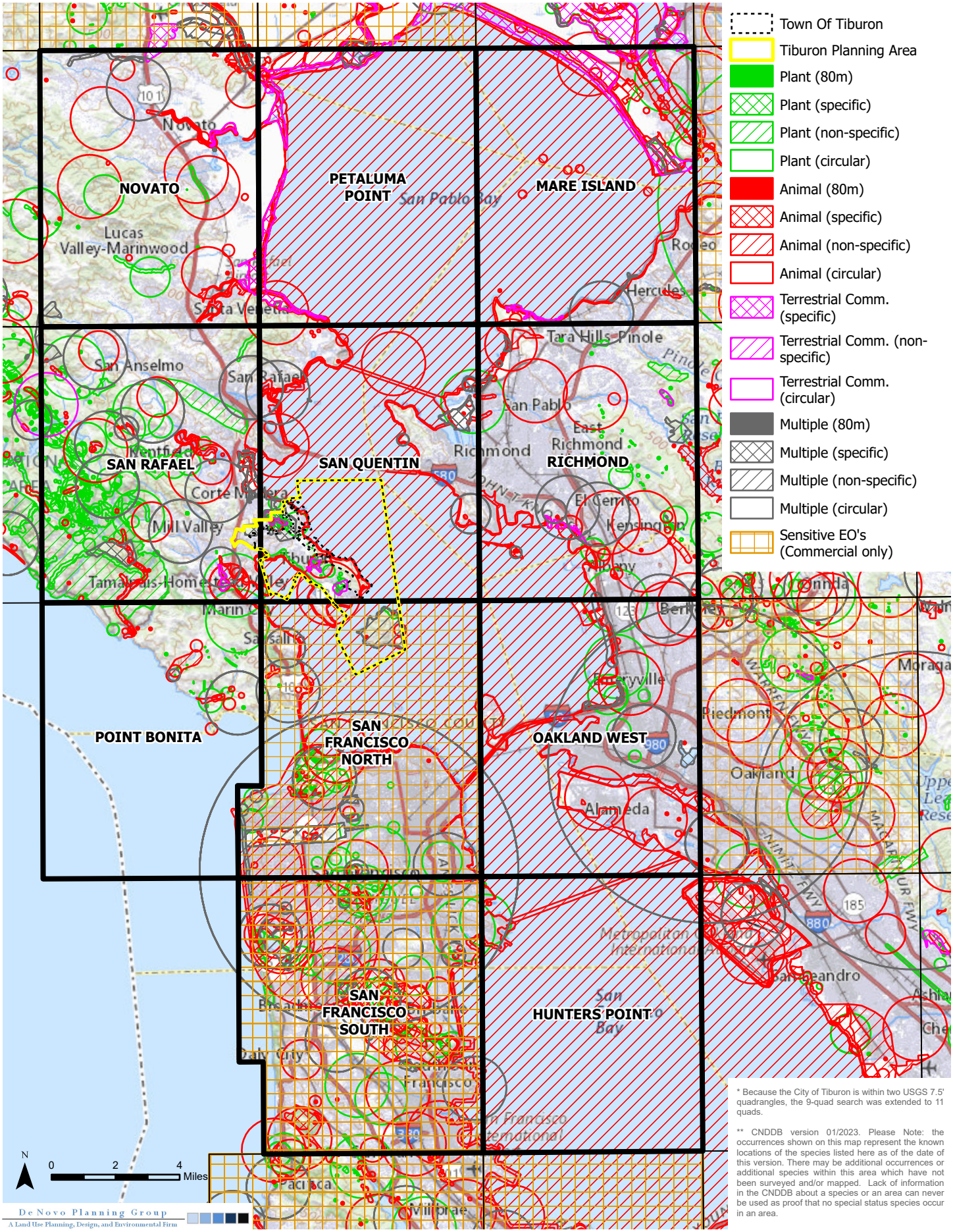
Mitigation Measures
None required

Figure 3.3-1. Land Cover Types



Sources: ArcGIS Online World Hillshade Map Service; Marin County GIS; CALFIRE-FRAP, fveg15_1, 2015. Map date: January 30, 2023.

Figure 3.3-2: California Natural Diversity Database - 9-quad* Search

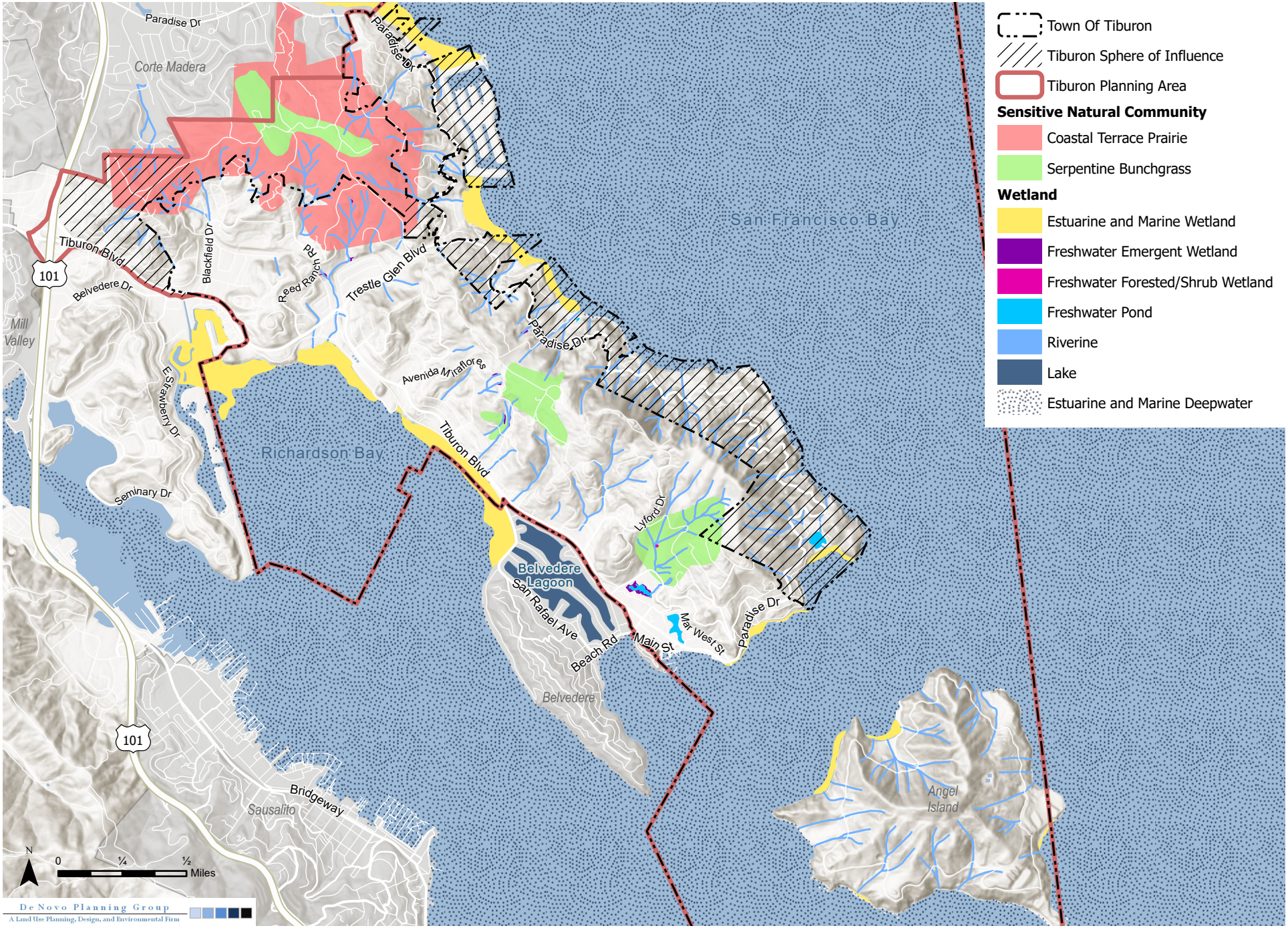


* Because the City of Tiburon is within two USGS 7.5' quadrangles, the 9-quad search was extended to 11 quads.

** CNDDB version 01/2023. Please Note: the occurrences shown on this map represent the known locations of the species listed here as of the date of this version. There may be additional occurrences or additional species within this area which have not been surveyed and/or mapped. Lack of information in the CNDDB about a species or an area can never be used as proof that no special status species occur in an area.

Sources: ArcGIS Online USGS Topographic Map Service. Map date: January 30, 2023.

Figure 3.3-3. Sensitive Natural Communities and Wetlands



De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

Sources: ArcGIS Online World Hillshade Map Service; Marin County GIS; California Natural Diversity Database; National Wetlands Inventory. Map date: January 30, 2023.

3.4 CULTURAL RESOURCES AND TRIBAL CULTURAL RESOURCES

This section identifies existing cultural (including historical and archeological resources) and tribal cultural resources within the Planning Area, and provides an analysis of potential impacts associated with implementation of the General Plan Update. Potential impacts are identified and mitigation measures to address potentially significant impacts are recommended, as necessary.

Information in this section is based on information provided by the following sources and reference materials:

- Create Tiburon 2040: Existing Conditions Report;
- Tiburon Municipal Code;
- Fanning, B., 2006. *Images of America: The Tiburon Peninsula*. Arcadia Publishing, Charleston;
- Fanning, B. 2010. *Then & Now: Tiburon and Belvedere*. Arcadia Publishing, Charleston;
- Fanning, B. & Wong, W., 2007. *Images of America: Angel Island*. Arcadia Publishing, Charleston;
- Heig, J., 1984. *Pictorial History of Tiburon: A California Railroad Town*. Scottwell Associates, San Francisco;
- Jones, T. & Klar, K., 2009. *California Prehistory*. Alta Mira Press, London;
- Kroeber, A., 1925. *Handbook of the Indians of California*. Bureau of American Ethnology Bulletin 78. Smithsonian Institution, Washington, D.C.;
- Kelly, I., 1978. *Coast Miwok*. Handbook of North American Indians. Vol. 8, California. Smithsonian Institution, Washington, D.C.;
- Mathews, G., 1999. *Downtown Tiburon Historic Resources Study*. Ms. on file, Town of Tiburon, Marin County, California; and
- 3D Visions, 2001. *Intensive Survey of Downtown Historic Resources*. Ms. on file, Town of Tiburon, Marin County, California.

One comment was received during the NOP comment period regarding cultural and tribal cultural resources. The comment was received from the Native American Heritage Commission (NAHC). The NAHC provides recommendations for cultural resources assessments and recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the Planning Area as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources.

3.4.1 EXISTING SETTING

Cultural resources are defined as buildings, sites, structures, or objects that may have historical, architectural, archeological, cultural, including tribal cultural, or scientific importance. Key terms related to cultural resources include:

Archeology. The study of historic or prehistoric peoples and their cultures by analysis of their artifacts and monuments.

Complex. A patterned grouping of similar artifact assemblages from two or more sites, presumed to represent an archeological culture.

Ethnography. The study of contemporary human cultures.

Midden. A deposit marking a former habitation site and containing such materials as discarded artifacts, bone and shell fragments, food refuse, charcoal, ash, rock, human remains, structural remnants, and other cultural leavings.

Paleontology. The science of the forms of life existing in former geologic periods, as represented by their fossils.

Prehistory

Humans are believed to have resided in southern Marin County for the past 13,000 years. Archeologists who have studied these past cultures have uncovered evidence of widespread activities that allowed them to divide these previous 13,000 years into periods or phases based on the kinds of subsistence behaviors practiced.

Six periods have been identified with locally defined phases and regional cultures added to the mix. The six periods are:

- Early Holocene (Lower Archaic), 8000 - 3500 B.C
- The Early Middle Period (Middle Archaic), 3500 B.C. - 500 B.C.
- The Lower Middle Period (Initial Upper Archaic), 500 B.C. – A.D. 430
- Upper Middle Period (Late Upper Archaic), A.D. 430 – A.D. 1050
- Initial Late Period (Lower Emergent), A.D. 1050 – A.D. 1550
- Terminal Late Period: Protohistoric Ambiguities, A.D. 1550 – 1775 (Milliken et al. in Jones and Klar 2007).

Early Holocene (Lower Archaic), 8000 B.C. – 3500 B.C.

Few Bay Area sites have been discovered to represent this time period. A pattern of generalized mobile foraging with artifacts such as the milling slab and hand stone (mano and metate), and large wide stem and leaf shaped projectile points are common.

The Early Middle Period (Middle Archaic), 3500 B.C. – 500 B.C.

New technological advances involving the use of the mortar and pestle first appear during this period as does the first evidence for the manufacture of shell beads. Researchers suggest increased sedentism occurred as did an expansion in trade.

The Lower Middle Period (Initial Upper Archaic), 500 B.C. – A.D. 430

A dramatic shift in the types of shell beads being manufactured is observed at sites with components dating to this period. New types of bone tools, such as the barbless fishhooks, first appeared indicating an increasing exploitation of the immediate environment, probably brought on by increasing populations pressures.

Upper Middle Period (Late Upper Archaic), A.D. 430 – A.D. 1050

A.D. 430 witnessed another dramatic shift in the selection of bead styles and the way people were buried. What caused this dramatic cultural upheaval is uncertain. The formally popular style of shell beads became obsolete with new, smaller varieties becoming widespread.

Initial Late Period (Lower Emergent), A.D. 1050 – A.D. 1550

Populations continued to increase as did resource exploitation and with it a whole new level of the manufacture of numerous, finely made grave goods that were buried with the dead. Social stratification can also be observed in the differing amounts of grave goods interred with a particular individual. The bow and arrow appeared in the area around A.D. 1250 causing among other things, a shift in the procurement of rock types and sources used in the manufacture in this new technological innovation.

Terminal Late Period: Protohistoric Ambiguities, A.D. 1550 – 1775

Once again, the style of shell beads abruptly changed throughout the Bay Area. Grave goods became less common and some researchers have suggested that populations were faced with increasing stress by over population and perhaps the early introduction of European-based diseases.

Ethnology

Coast Miwok

The voyages of Drake in 1579 and Cermeño in 1595 resulted in sketchy accounts of the life of the Coast Miwok prior to disruption of the native culture. The Coast Miwok traditional way of life disappeared rapidly after the founding of the mission at San Francisco in 1776 and the later missions at San Rafael and Sonoma. Forced movement of Coast Miwok to the missions and the determination of the friars to convert the natives to Christianity and destroy all vestiges of their former life, along with epidemic diseases of the whites, soon left few natives that could remember the pre-contact culture. The Russian colony at Fort Ross used Bodega Bay in Coast Miwok territory as a port, but the Russian policy was to interfere with Indian life only to the extent necessary to harvest the maximum number of sea otter pelts.

The Coast Miwok occupied what is now Marin County and part of Sonoma County, as far north as the vicinity of Sebastopol. There is extensive coastline in this territory and resources from the sea and salt marshes were important in Coast Miwok subsistence; however, the resources available in the interior of their territory were by no means ignored. Sea mammals were not part of the diet, but various species of fish were taken with nets, seines, weirs, spears, and line-with-gorge technologies. Even more important in the diet were clams and some species of mussel, resulting in the characteristic coastal shell middens familiar through archeology.

The most important food resource, as with most California Indians, was the acorn. It was leached to remove most of the tannic acid and then ground into meal and prepared in various ways. It was particularly valuable because the meal could be stored against times of shortage of other foods. Kelp was collected, dried, and stored as another hedge against seasonal shortages. The interior of the territory provided, in addition to acorns, the many mammals and rodents that were hunted or trapped. Birds, both interior and coastal, were netted and a wide variety of vegetable foods were collected. Despite the relative abundance of their food sources, winter and early spring were still times of short food supply, and stored acorns and kelp were then the primary foods.

Villages were situated so as to be handy to food resources at various times of year. The Coast Miwok moved among residences on the coast, around salt or freshwater marshes and on interior streams so that they would be close to the most abundant food supply available at a particular season. Dwellings were conical brush-on-frame structures capable of sheltering up to ten individuals. Other structures included semi-subterranean sweathouses, that served as something of a men's club, and--at major villages--a dance house for religious ceremonies. The dance house was basically the same construction as the sweathouse only larger. An excavation about two feet deep and fifteen in diameter formed the floor and a timber framework supported a brush dome capped with earth.

Archeology has provided an extensive collection of the stone tools that were used, but it is clear from ethnology that basketry and cordage were used for the majority of utilitarian objects. These materials do not preserve well, so they are uncommon in archeological sites. Basket making was a highly developed skill and baskets were woven tightly enough to hold water and cooking of acorn mush was accomplished by dropping hot rocks into baskets containing the mush. Cordage was used for the variety of nets used in taking fish, birds, and small mammals.

In terms of socio-political organization, the term Coast Miwok is primarily a convenience for anthropologists, denoting a group speaking the same language and occupying a contiguous territory. In fact, there was no overall political control of this group and the real basis of social organization was the main village. Major villages were occupied by a group of related families under the authority of a headman. Even at this level the powers of the headman were limited and, basically, advisory. No overall authority for Coast Miwok was recognized, and village groups were sometimes on better terms with their Pomo or Patwin neighbors than with

other Coast Miwok village groups. Within the village group, close ties were maintained through the extensive religious/ceremonial life and through kinship ties.

Through much of aboriginal California, shell beads served as a form of currency. As a coastal people, the Coast Miwok had access to the raw material and bead manufacture was an important industry because it provided currency to trade for goods from neighboring groups. This allowed the Coast Miwok to import obsidian from the Wappo to the north to use in making arrowheads and other edged tools. Chert was used to form more utilitarian edged implements, but obsidian was the preferred material. Yellow ocher was also obtained from the Wappo for paint and venison and magnesite cylinders were obtained from the Pomo. Despite their access to clam shell, the trade relationships of the Coast Miwok do not appear to have been very extensive. Perhaps this reflects the relative abundance of resources available in their own territory.

Historic Period

Tiburon is a community that has had extensive documentation over the years and remains committed to the preservation and protection of resources through the Belvedere-Tiburon Landmarks Society, a non-profit group founded in 1959. Until the Covid-19 pandemic caused closures, the Landmarks Society maintained the Landmarks History Collection with two archivists, and published articles and books on the local history, as well as creating videos.

The Landmarks Society maintains a website providing access to all of these resources to the public. Of particular value is the detailed timeline of events for the community. The Landmarks Society manages and maintains the Old St. Hilary's Landmark and the surrounding wildflower preserve, the China Cabin (in Belvedere), the Railroad Ferry & Depot Museum, and the Landmarks Art and Garden Center.

The following is a synthesis of the many books and documents on the history of the community, including publications documenting different aspects of the community and economy of the Town, as well as photographs documenting buildings within Tiburon.

The land of the Tiburon Peninsula was first awarded by the Mexican government to John Thomas Reed in 1834 as the Rancho Corte de Madera del Presidio. An Irish sailor, Read had arrived in the area in 1826, and became a Mexican citizen in 1834. His widow and four children applied for confirmation of the grant of 7,845 acres; it was finally awarded to the family in 1884. Dairying and cod fishing were two major industries in the area.

Angel Island, first named by early arrivals in San Francisco Bay in 1775, has been called by its current name since the arrival of the Americans in the region. It is the largest island in San Francisco Bay, and has served as a cattle ranch, part of the coastal defense system, the West Coast immigration station (1910-1940), a prisoner of war camp, and a Nike missile base. Since 1962, the island has been a California State Park.

In 1882, Peter Donahue made a deal with the Reed family for a railroad right-of-way for the North Pacific Railroad (name later changed to Northwestern Pacific). The railroad company built a railroad yard and ferry terminal, with ferries taking commuters and vehicles to San Francisco and Sausalito. Barges hauled loaded freight cars to San Francisco and Richmond. In the 1970s, the abandoned railroad was removed, and the right-of-way purchased by Tiburon for the waterfront path. The railyards were used for housing and commercial projects.

Other enterprises in the Town included the U.S. Navy Coaling Station where ships refueled, beginning operations in 1904 until 1931. That site became the California Maritime Academy until World War II and was converted to the manufacture of anti-submarine nets. Later, research facilities were established at the site.

For many years, most of the land of the peninsula were controlled by descendants of the Reed family and used for cattle ranching. Development began after the War on smaller tracts. Eventually, the primary landowners finalized a Master Plan in 1956.

In 1961, Richardson Bay Audubon Center became established, representing a culmination of a seven-year local campaign to protect bay and shoreland from real estate development. The Center includes the Rose Verrall gift of nine shoreland acres and the wildlife sanctuary of nine hundred tideland acres. This was followed by the dedication of Old St. Hillary's Historic Preserve, which was the first hillside open space conserved with wildflower acreage as part of Marin County parks system.

There were attempts to incorporate a town of Tiburon, opposed by the large landowners. In 1964, the incorporation became official and included Angel Island. The citizens elected a town council, and a town manager was appointed. Open space became a priority. A major preservation effort was launched to revitalize Main Street and Downtown Tiburon. New buildings have been added to provide community services.

In 1971, the Richardson Bay Path and lineal park was established on an old railroad right-of-way along the shoreline. This was followed by the acquisition of the Belvedere Cove waterfront by the Town for open space, panoramic vista and preservation of China Cabin. In 1983, the Ring Mountain Preserve was dedicated under ownership and management of The Nature Conservancy.

Cultural Resources

Northwest Information Center

142 cultural resources have been identified within the Town's General Plan Planning Area, according to files maintained by the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS). The 142 recorded cultural resources represent both the prehistoric and historic periods; refer to Table 3.4-1.

Most of the prehistoric period resources were identified in the early part of the 20th century by archeologist Nels Nelson who recorded over 400 shell mound midden sites along the Bay Area's shorelines during this period (thirty-two of which were recorded in the Planning Area). Many of these shell mound middens were the result of simple shellfish processing and do not possess artifacts or features that indicate habitation while others are connected with more permanently inhabited prehistoric village sites, some of which continued to be occupied well into the early Spanish Period. In addition to the prehistoric resources identified by Nelson, 11 other prehistoric sites, including prehistoric rock art, habitation, and lithic scatter have been identified in the Planning Area. Historic resources include a preponderance of historic period resources relates to Angel Island's military installations and immigration station, as well as assorted historic foundations, walls, and buildings in the Planning Area.

TABLE 3.4-1: RESOURCES LISTED WITH THE NORTHWEST INFORMATION CENTER FILE DIRECTORY

PROPERTY NUMBER	ADDRESS	PERIOD/TYPE	NAME
P-21-000055 / CA-MRN-000024	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 24
P-21-000056 / CA-MRN-000025	Not Listed	Prehistoric/Historic Habitation/Shell Midden	Nelson No. 25
P-21-000057 / CA-MRN-000026	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 26
P-21-000058 / CA-MRN-000027	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 27
P-21-000059 / CA-MRN-000028	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 28
P-21-000060 / CA-MRN-000029	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 29
P-21-000061 / CA-MRN-000030	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 30
P-21-000062 / CA-MRN-000031	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 31
P-21-000063 / CA-MRN-000032	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 32
P-21-000064 / CA-MRN-000033	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 33
P-21-000065 / CA-MRN-000034	Not Listed	Prehistoric/Historic Habitation/Shell Midden	Nelson No. 34
P-21-000066 / CA-MRN-000035	Not Listed	Prehistoric/Historic Habitation/Shell Midden	Nelson No. 35
P-21-000067 / CA-MRN-000036	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 36
P-21-000068 / CA-MRN-000037	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 37
P-21-000069 / CA-MRN-000038	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 38

PROPERTY NUMBER	ADDRESS	PERIOD/TYPE	NAME
P-21-000072 / CA-MRN-000042	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 42
P-21-000073 / CA-MRN-000043	Not Listed	Prehistoric Habitation/Quarry	Nelson No. 43
P-21-000074 / CA-MRN-000044	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 44
P-21-000075 / CA-MRN-000045	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 45
P-21-000076 / CA-MRN-000046	Not Listed	Prehistoric/Historic Habitation/Shell Midden	Nelson No. 46
P-21-000077 / CA-MRN-000047	Not Listed	Prehistoric/Historic Habitation/Shell Midden	Nelson No. 47
P-21-000078 / CA-MRN-000048	Not Listed	Prehistoric Habitation/Shell Midden	Nelson No. 48
P-21-000079 / CA-MRN-000049	Not Listed	Prehistoric Habitation/Shell Midden	Nelson No. 49
P-21-000080 / CA-MRN-000050	Not Listed	Prehistoric Habitation/Shell Midden	Nelson No. 50
P-21-000081 / CA-MRN-000051	Not Listed	Prehistoric/Historic Habitation/Shell Midden	Nelson No. 51
P-21-000082 / CA-MRN-000052	Not Listed	Prehistoric/Historic Habitation/Shell Midden	Nelson No. 52
P-21-000083 / CA-MRN-000053	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 53
P-21-000084 / CA-MRN-000054	Not Listed	Prehistoric/Historic Habitation/Shell Midden	Nelson No. 54
P-21-000085 / CA-MRN-000055	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 55
P-21-000086 / CA-MRN-000056	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 56
P-21-000087 / CA-MRN-000057	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 57
P-21-000088 / CA-MRN-000058	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 58
P-21-000267 / CA-MRN-000281	Not Listed	Prehistoric/Historic Habitation	Not Listed
P-21-000371 / CA-MRN-000405	Not Listed	Prehistoric Habitation	Not Listed
P-21-000385 / CA-MRN-000423	Not Listed	Prehistoric Rock Art	Not Listed
P-21-000386 / CA-MRN-000425	Not Listed	Prehistoric Rock Art	Not Listed
P-21-000407 / CA-MRN-000453	Not Listed	Prehistoric Habitation	Lee's Shell Mound
P-21-000408 / CA-MRN-000454	Not Listed	Prehistoric Habitation	Not Listed

PROPERTY NUMBER	ADDRESS	PERIOD/TYPE	NAME
P-21-000409 / CA-MRN-000455	Not Listed	Prehistoric Habitation	Not Listed
P-21-000415 / CA-MRN-000461	Not Listed	Prehistoric Habitation	Not Listed
P-21-000530 / CA-MRN-000604	Not Listed	Prehistoric Lithic Scatter	Not Listed
P-21-000531 / CA-MRN-000605	Not Listed	Prehistoric Lithic Scatter	Not Listed
P-21-000545 / CA-MRN-000407	Not Listed	Prehistoric Habitation	Not Listed
P-21-000576 / CA-MRN-000617H	Not Listed	Historic Foundations	Not Listed
P-21-000577 / CA-MRN-000618H	Angel Island	Historic Military Property	Battery Wallace, Building 89
P-21-000578 / CA-MRN-000619H	Not Listed	Historic Cemetery	Not Listed
P-21-000579 / CA-MRN-000620H	Not Listed	Historic Foundations	Not Listed
P-21-000580 / CA-MRN-000621H	Not Listed	Historic Refuse Scatter/Wall	Not Listed
P-21-000581 / CA-MRN-000622H	Not Listed	Historic Foundations	Not Listed
P-21-000582	Not Listed	Historic Concrete Rubble	Not Listed
P-21-000583	Not Listed	Historic Foundation	Not Listed
P-21-000584	Not Listed	Historic Water Conveyance Feature	Not Listed
P-21-000585	Not Listed	Historic Cistern	Not Listed
P-21-000586	Not Listed	Historic Refuse Scatter	Not Listed
P-21-000587/ CA-MRN-000623H	Not Listed	Historic Foundation	Not Listed
P-21-000588	Not Listed	Historic Foundations/Landscape	Not Listed
P-21-000589	Not Listed	Historic Building	Not Listed
P-21-000590	Angel Island	Historic Improved Spring Feature	Stone Spring Box
P-21-0005891	Angel Island	Historic Water Tanks	Concrete Tank Site
P-21-000592	Angel Island	Historic Water Tank	Redwood Tank Site
P-21-000595 / CA-MRN-000627	Not Listed	Prehistoric Isolated Artifact	Not Listed
P-21-000625 / CA-MRN-000641	Not Listed	Prehistoric Lithic Scatter	Not Listed
P-21-001091	13 Main Street, Tiburon	Historic Commercial Building	Not Listed
P-21-001092	Not Listed	Historic Single Family Property	Railway Employees Houses/Sharktown
P-21-001093	Not Listed	Historic Single Family Property	Grant House
P-21-001094	Not Listed	Historic Wetland Feature	Downtown Marsh
P-21-001099	Angel Island	Historic District	Angel Island District

PROPERTY NUMBER	ADDRESS	PERIOD/TYPE	NAME
P-21-002436	Angel Island	Historic Military Property	Bachelors Officer's Quarters
P-21-002437	Angel Island	Historic Military Property	Residence Building
P-21-002438	Angel Island	Historic Military Property	Residence Building
P-21-002439	Angel Island	Historic Military Property	Residence Building
P-21-002440	Angel Island	Historic Military Property	Old Hospital Building, Building 316
P-21-002441	Angel Island	Historic Military Property	Company Officer's Quarters
P-21-002442	Angel Island	Historic Military Property	Field Officer's Quarters
P-21-002443	Angel Island	Historic Military Property	General Shafter Quarters
P-21-002444	Angel Island	Historic Military Property	Non-Commissioned Officer's Quarters
P-21-002445	Angel Island	Historic Military Property	Company Officer's Quarters
P-21-002446	Angel Island	Historic Military Property	Quartermaster's Storehouse
P-21-002447	Angel Island	Historic Military Property	Detention Barracks, Building 317
P-21-002448	Angel Island	Historic Military Property	Power House, Building 314
P-21-002449	Angel Island	Historic Military Property	Stable/Mule Barn, Building 313
P-21-002450	Angel Island	Historic Military Property	Carpentry Shop
P-21-002451	Angel Island	Historic Military Property	WWII Barracks, Building 241
P-21-002452	Angel Island	Historic Military Property	WWII Barrack, Building 242
P-21-002453	Angel Island	Historic Military Property	WWII Mess Hall, Building 233
P-21-002454	Angel Island	Historic Military Property	Sentry Tower
P-21-002455	Angel Island	Historic Military Property	Monument
P-21-002456	Angel Island	Historic Military Property	Bell
P-21-002457	Angel Island	Historic Military Property	Immigration Station Site
P-21-002541	Angel Island	Historic Military Property	Angel Island Telegraph
P-21-002553	Not Listed	Prehistoric Habitation	Gilmartin Mound
P-21-002630	Not Listed	Historic Rock Wall	Not Listed
P-21-002636	Angel Island	Historic Road/Trail	Perimeter Road/Perle's Beach Trail
P-21-002654	Not Listed	Prehistoric Habitation	Not Listed
P-21-002655	Not Listed	Prehistoric Habitation	Not Listed
P-21-002662	20- 22 Main Street, Tiburon	Historic Commercial Building	Harbor Light
P-21-002664 / CA-MRN-684H	Not Listed	Historic Refuse Scatter	Not Listed
P-21-002859	Rock Hill Drive & Del Mar Drive, Tiburon	Historic Commercial Building	Belvedere Tennis Club
P-21-002912	Paradise Park Marina, Tiburon	Historic Wharf	El Campo Resort/Monticello Grove
P-21-003019	Angel Island	Historic District	Camp Reynolds District
P-21-003021 / CA-MRN-00754/H	Not Listed	Prehistoric Habitation	Not Listed
P-21-003022	Angel Island, West Garrison	Historic Military Property	600 Man Barracks
P-21-003023	Angel Island, West Garrison	Historic Military Property	Captain's Quarters, Building 54

PROPERTY NUMBER	ADDRESS	PERIOD/TYPE	NAME
P-21-003024	Angel Island, West Garrison	Historic Military Property	NCO Quarters, Building 55
P-21-003025	Angel Island, West Garrison	Historic Military Property	Chapel, Building 59
P-21-003029	Angel Island, West Garrison	Historic Military Property	NCO Quarters, Building 58
P-21-003030	Angel Island, West Garrison	Historic Military Property	Mule Barn, Building 69
P-21-003031	Angel Island, West Garrison	Historic Military Property	NCO Quarters, Building 70
P-21-003032	Angel Island, West Garrison	Historic Military Property	NCO Quarters, Building 71
P-21-003033	Angel Island, West Garrison	Historic Military Property	NCO Quarters, Building 79
P-21-003034	Angel Island, West Garrison	Historic Military Property	Office and Barracks/West garrison Hospital
P-21-003035	Angel Island, West Garrison	Historic Military Property	Latrine, Building 86
P-21-003036	Angel Island, West Garrison	Historic Military Property	West Garrison Flagpole/Camp Reynolds Flagpole
P-21-003037	Angel Island, West Garrison	Historic Military Property	Quarters/Duplex, Building 95
P-21-003038	Angel Island, West Garrison	Historic Military Property	NCO Quarters, Building 72
P-21-003045	Angel Island, North Garrison	Historic Military Property	Fire Station, Building 231
P-21-003046	Angel Island	Historic Military Property	Cable Vault/Subterranean Cable Vault
P-21-003064	Angel Island	Historic Military Property	Battery, Building 88
P-21-003066	Angel Island, East Garrison	Historic Military Property	Administration Building
P-21-003067	Angel Island, East Garrison	Historic Military Property	Hospital/Hospital Annex, Building 23
P-21-003068	Angel Island, East Garrison	Historic Military Property	Post Exchange, Building 19
P-21-003069	Angel Island, East Garrison	Historic Military Property	Guard House, Building 20
P-21-003070	Angel Island, East Garrison	Historic Military Property	Mess & Drill Hall, Building 22
P-21-003071	Angel Island, East Garrison	Historic Military Property	N.C.O. Quarters, Building 24
P-21-003072	Angel Island, East Garrison	Historic Military Property	N.C.O. Quarters, Buildings 25-28
P-21-003073	Angel Island, East Garrison	Historic Military Property	Officer's Club, Building 29
P-21-003074	Angel Island, East Garrison	Historic Military Property	Tennis Courts
P-21-003075	Angel Island, East Garrison	Historic Military Property	N.C.O. Quarters, Buildings 32, 34-37

PROPERTY NUMBER	ADDRESS	PERIOD/TYPE	NAME
P-21-003076	Angel Island, East Garrison	Historic Military Property	Bowling Alley, Building 38
P-21-003077	Angel Island, East Garrison	Historic Military Property	PX Tailor Shop, Building 40
P-21-003078	Angel Island, East Garrison	Historic Military Property	Commissary Warehouse, Building 41
P-21-003079	Angel Island	Historic Military Property	Battery Drew Mortar Hill, Building 87
P-21-003080	Angel Island, East Garrison	Historic Military Property	Barrack, Building 103
P-21-003081	Angel Island, North Garrison	Historic Military Property	Barrack, Building 222
P-21-003082	Angel Island, North Garrison	Historic Military Property	Dental Clinic, Building 224
P-21-003083	Angel Island, North Garrison	Historic Military Property	Wharf & Dock Storehouse, Buildings 315 and 319
P-21-003084	Angel Island, East Garrison	Historic Military Property	Electric Sub-station
P-21-003088	Not Listed	Historic Building	Garage
P-21-003090 / CA-MRN-757/H	Not Listed	Prehistoric Habitation	Not Listed
P-21-005505	Angel Island	Historic NRHP District	Angel Island District
P-21-005553	Angel Island, East Garrison	Historic Military Property	600 Man Barracks
P-21-005568	Angel Island, East Garrison	Historic Military Property	Commissary Warehouse, Building 41

SOURCE: Northwest Information Center, California Historical Resources Information System, California State University, Sonoma, 2020.

National Register of Historic Places

The National Register of Historic Places (NRHP) lists five properties within the Town's General Plan Planning Area as of March 1, 2023.[1] These include:

- Angel Island, U.S. Immigration Station;
- San Francisco and North Pacific Railroad Station House-Depot (Peter Donahue Building);
- Lyford's Stone Tower;
- Benjamin and Hilarita Lyford House (Lyford House); and
- St. Hilary's Mission Church (Old St. Hilary's Church).

Two NRHP Districts, the Camp Reynolds District and the Angel Island District are also on record.

[1] U.S. National Park Service, 2023. National Register Database and Research. Available: https://www.nps.gov/subjects/nationalregister/database-research.htm#table. Accessed: March 1, 2023.

Local and Regional Directories and Studies

Forty buildings were evaluated in 1999 for the Downtown Tiburon Historic Resources Study (Mathews) and are identified on the Marin County Built Environment Resources Directory, as shown on Table 3.4-2. Some resources appear on multiple directories (NWIC list of resources/Marin County Built Environment Resources Directory). Three significance ratings were assigned to the forty buildings by Mathews:

- Significant, which are structures that have retained their historic integrity and have the highest importance in maintaining the historic character of the neighborhood;
- Complementary, which are structures that are not deserving of individual architectural merit, but which have enough architectural quality that they support the pervasive historical character established by significant structures; and
- Non-Complementary, which are structures that have since been substantially altered and thus no longer maintain architectural qualities or character typical of the time they were built.

Of the buildings evaluated in 1999 for the Downtown Tiburon Historic Resources Study, 17 buildings were designated Significant, another 17 buildings were designated Complementary, and 6 buildings were designated Non-Complementary.

TABLE 3.4-2: HISTORIC RESOURCES FROM THE DOWNTOWN TIBURON HISTORIC RESOURCES STUDY AND THE MARIN COUNTY HISTORIC PROPERTY DATA FILE DIRECTORY

SIGNIFICANCE RATING	ADDRESS	YEAR BUILT	BUSINESS NAME
Significant	20 Main Street	1910	Harbor Light
Significant	21A Main Street (Ark)	Unknown	Not Listed
Significant	26 Main Street	1912	Mark Rueben Gallery
Significant	27 Main Street	1920	Sam's Café Anchor Restaurant
Significant	32 Main Street	1921	Junelles Gifts
Significant	34 Main Street	1921	Han Syi Studio/Masson Real Estate
Significant	38 Main Street	1900	Rooney's Café and Grill
Significant	55 Main Street	1925	Not Listed
Significant	72 Main Street	1918	Windsor Vineyards
Significant	104 Main Street	1895	Switzer Galleries/Attorney
Significant	106 Main Street	1920	Schoenberg Guitars
Significant	108 Main Street	1920	Not Listed
Significant	110 Main Street	1920	Tiburon Deli
Significant	112 Main Street	1890	Residential/Ed's Garage Antique Car Display
Significant	114 Main Street	1930	Servino Restaurant
Significant	116 Main Street	1906	Ark Angels
Significant	118-120 Main Street	1880	Alterations & Dressmaking by Trudy
Complementary	5-7 Main Street	1965	Guyamas/Boudin/Candy Store
Complementary	9 Main Street	1975	Tutto Mare

SIGNIFICANCE RATING	ADDRESS	YEAR BUILT	BUSINESS NAME
Complementary	10 Main Street, 1700 and 1704 Tiburon Boulevard	1969	Little Angels/Portofino/St. Angelo's
Complementary	15-17 Main Street	1886	Waypoint Pizza/Silk, Satin & Lace/Old Gold Jewel
Complementary	16 Main Street	1916	St. Angelo's
Complementary	31 Main Street	1929	Store
Complementary	35 Main Street	1925	Sweden House Bakery
Complementary	40 Main Street	1958	Tiburon Playhouse
Complementary	42 Main Street	1955	Not Listed
Complementary	44 Main Street	1955	For Her
Complementary	46 Main Street	1962	Westerly Tea
Complementary	74-76 Main Street	1972	Giftique/Ruth Livingston Interior
Complementary	80 Main Street	1965	Attorney/Creature Comforts/Abaya/Bucky's Place
Complementary	82-100 Main Street	1970	Tiburon Books/Parsley's/Stephens Antiques/Tiburon Shoe Repair/The Attic/Still Life/Office/Tiburon Mail Service/For Paws/Tiburon Physical Therapy/Tiburon Thrift Shop/Business Services
Complementary	122 Main Street	1870	Just Nailed Manicuring/Next Salon
Complementary	130 Main Street	1920+	Main Street Properties
Complementary	1696 Tiburon Boulevard	1936	New Morningside Café and Paradise
Non-Complementary	21 Main Street	Unknown	Main Treat
Non-Complementary	23-25 Main Street	1961	Bird & Hound General Store
Non-Complementary	28 Main Street	1918	Watch Store
Non-Complementary	30 Main Street	1916	R.J. Sax
Non-Complementary	39 Main Street	1926	National Emergency Services
Non-Complementary	41 Main Street	1930	Tiburon Tommies (was Pharmacy)
SOURCE: Mathews, 1999. Downtown Tiburon Historic Resources Study, Appendix D, Marin County Built Environment Resources Directory.			

In 2001, a second study, *Intensive Survey of Downtown Historic Resources* (3D Visions), supplemented the work of Mathews (1999) by providing additional construction and cultural details concerning 23 properties in order to allow the application of the California Historical Building Code (Title 24, Part 8) to these properties. The Town prepared a list of buildings eligible for the State's Historical Building Code, *Buildings in Downtown Eligible for State Building Code (as of June 8, 2016).* The list includes: (Main Street Lower) 13, 15, 17, 19 Main Street; 16, 18 Main Street; 21A Main Street (on pier); 24, 26 Main Street; 27, 29 Main Street; 30 Main Street; 31, 33 Main Street; 32 Main Street; 34, 36 Main Street; 35 Main Street; 38 Main Street;

55 Main Street; (Main Street Upper, aka Ark Row) 72 Main Street; 104 Main Street; 106 Main Street; 108 Main Street; 110 Main Street; 112 Main Street; 116 Main Street; 188, 120 Main Street; and, 122 Main Street.

The Town also prepared a list of local historic landmarks, *Town of Tiburon Local Historic Landmarks (as of June 8, 2016).* The list has five properties:

- Peter Donahue Building, 1920 Paradise Drive;
- Lyford's Stone Tower, 2034 Paradise Drive;
- Old St. Hilary's Church, 201 Esperanza Drive;
- Brick Kiln Bunkhouse, 841 Tiburon Boulevard; and
- Lyford House, 376 Greenwood Beach Road.

Tribal Consultation

A Sacred Lands File (SLF) search was requested from the Native American Heritage Commission (NAHC). The NAHC responded on November 4, 2020 indicating that the SLF search had been completed with "positive" results and included a list of Native American individuals or tribal organizations that may have knowledge of cultural resources within the boundaries of Marin County. This included the Federated Indians of Graton Rancheria and the Guidiville Indian Rancheria. The Town contacted representatives of the tribes to provide an opportunity to consult on the project. However, to date, no responses have been received.

3.4.2 REGULATORY SETTING

Federal

National Historic Preservation Act

Enacted in 1966 and amended in 2000, the National Historic Preservation Act (NHPA) declared a national policy of historic preservation and instituted a multifaceted program, administered by the Secretary of the Interior, to encourage the achievement of preservation goals at federal, State, and local levels. The NHPA authorized the expansion and maintenance of the National Register of Historic Places (NRHP), established the position of State Historic Preservation Officer (SHPO) and provided for the designation of State Review Boards, set up a mechanism to certify local governments to carry out the purposes of the NHPA, assisted Native American tribes to preserve their cultural heritage, and created the Advisory Council on Historic Preservation.

Section 106 Process

Through regulations associated with the NHPA, an impact to a cultural resource would be considered significant if government action would affect a resource listed in or eligible for listing in the NRHP. The NHPA codifies a list of cultural resources found to be significant within the context of national history, as determined by a technical process of evaluation.

Resources that have not yet been placed on the NRHP, and are yet to be evaluated, are afforded protection under the Act until shown not to be significant.

Section 106 of the NHPA and its implementing regulations (36 Code of Federal Regulations Part 800) state that for a cultural resource to be determined eligible for listing in the NRHP, the resource must meet specific criteria associated with historic significance and possess certain levels of integrity of form, location, and setting. The criteria for listing on the NRHP are applied within an analysis when there is some question as to the significance of a cultural resource. The criteria for evaluation are defined as the quality of significance in American history, architecture, archeology, engineering, and culture. This quality must be present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association. A property is eligible for the NRHP if it is significant under one or more of the following criteria:

- Criterion A: It is associated with events that have made a significant contribution to the broad patterns of our history; or
- Criterion B: It is associated with the lives of persons significant in our past; or
- Criterion C: It embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- Criterion D: It has yielded, or may be likely to yield, information important in prehistory or history.

Criterion (D) is usually reserved for archaeological resources. Eligible cultural resources must meet at least one of the above criteria and exhibit integrity, measured by the degree to which the resource retains its historical properties and conveys its historical character.

The Section 106 evaluation process does not apply to projects undertaken under city environmental compliance jurisdiction. However, should the undertaking require funding, permits, or other administrative actions issued or overseen by a Federal agency, analysis of potential impacts to cultural resources following the Section 106 process would likely be necessary. The Section 106 process typically excludes cultural resources created less than 50 years ago unless the resource is considered highly significant from the local perspective. Finally, the Section 106 process allows local concerns to be voiced and the Section 106 process must consider aspects of local significance before a judgment is rendered.

Secretary of the Interior's Standards for the Treatment of Historic Properties

The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings was published in 1995 and codified as 36 Code of Federal Regulations Part 68. The purpose of the standards and guidelines is to provide guidance to historic building owners and building managers, preservation consultants, architects, contractors, and project reviewers prior to beginning work. Neither technical nor prescriptive, these standards are "intended to

promote responsible preservation practices that help protect our Nation's irreplaceable cultural resources." There are four sections, each focusing on one of four treatment Standards: Preservation, Rehabilitation, Restoration, and Reconstruction. "Preservation" acknowledges a resource as a document of its history over time, and emphasizes stabilization, maintenance, and repair of existing historic fabric. "Rehabilitation" not only incorporates the retention of features that convey historic character, but also accommodates alterations and additions to facilitate continuing or new uses. "Restoration" involves the retention and replacement of features from a specific period of significance. "Reconstruction," the least used treatment, provides a basis for recreating a missing resource. These standards have been adopted, or are used informally, by many agencies at all levels of government to review projects that affect historic resources.

American Indian Religious Freedom Act and Native American Graves and Repatriation Act

The American Indian Religious Freedom Act recognizes that Native American religious practices, sacred sites, and sacred objects have not been properly protected under other statutes. It establishes as national policy that traditional practices and beliefs, sites (including right of access), and the use of sacred objects shall be protected and preserved. Additionally, Native American remains are protected by the Native American Graves and Repatriation Act of 1990.

Other Federal Legislation

Historic preservation legislation was initiated by the Antiquities Act of 1966, which aimed to protect important historic and archeological sites. It established a system of permits for conducting archeological studies on Federal land, as well as setting penalties for noncompliance. This permit process controls the disturbance of archeological sites on Federal land. New permits are currently issued under the Archeological Resources Protection Act (ARPA) of 1979. The purpose of ARPA is to enhance preservation and protection of archeological resources on public and Native American lands. The Historic Sites Act of 1935 declared that it is national policy to "Preserve for public use historic sites, buildings, and objects of national significance."

State

California Environmental Quality Act

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

A resource is considered historically significant if it meets any of the following criteria:

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

In addition, if it can be demonstrated that a project would cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (Public Resources Code Section 21083.2[a], [b], and [c]). Public Resources Code Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

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

California Register of Historical Resources (CRHR)

Created in 1992 and implemented in 1998, the CRHR is "an authoritative guide in California to be used by State and local agencies, private groups, and citizens to identify the State's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change." Certain properties, including those listed in or formally determined eligible for listing in the NRHP and California Historical Landmarks numbered 770 and higher, are automatically included in the CRHR. Other properties recognized under the California Points of Historical Interest program, identified as significant in historical resources surveys or designated by local landmarks programs, may be nominated for inclusion in the CRHR. A resource, either an individual property or a contributor to a historic district, may be listed in the CRHR if the State Historical Resources Commission determines that it meets one or more of the criteria modeled on the NRHP criteria.

Public Resources Code Section 5097 (Related to Cultural Resources)

California Public Resources Code (PRC) Section 5097 addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native

American skeletal remains are discovered during construction of a project; and establishes the California Native American Heritage Commission (NAHC) to resolve disputes regarding the disposition of such remains. It has been incorporated into Section 15064.5(e) of the CEQA Guidelines.

The NAHC, created in statute in 1976 (Chapter 1332, Statutes of 1976), is a nine-member body whose members are appointed by the Governor. The NAHC identifies, catalogs, and protects Native American cultural resources -- ancient places of special religious or social significance to Native Americans and known ancient graves and cemeteries of Native Americans on private and public lands in California. The NAHC is also charged with ensuring California Native American tribes' accessibility to ancient Native American cultural resources on public lands, overseeing the treatment and disposition of inadvertently discovered Native American human remains and burial items, and administering the California Native American Graves Protection and Repatriation Act (CalNAGPRA), among many other powers and duties.

PRC Sections 5097.9 through 5097.991 establish that no public agency or private party using or occupying public property (or operating on under a public license, permit, grant, lease or contract made after July 1, 1977) shall in any manner interfere with the free expression or exercise of Native American religion as provided in the U.S. Constitution and the California Constitution. It also prohibits such agencies and parties from causing severe or irreparable damage to any Native American sanctified cemetery, place of worship, religious or ceremonial site or sacred shrine located on public property, except on a clear and convincing showing that the public interest and necessity so require it.

These sections also establish the state's NAHC. The NAHC is tasked with working to ensure the preservation and protection of Native American human remains, associated grave goods and cultural resources. Towards this end, the NAHC has a strategic plan for assisting the public, development communities, local and federal agencies, educational institutions and California Native Americans to better understand problems relating to the protection and preservation of cultural resources and to serve as a tool to resolve these problems. In 2006, PRC Sections 5097.91 and 5097.98 were amended by Assembly Bill 2641 to authorize the NAHC to bring legal action when necessary to prevent damage to Native American burial grounds or places of worship. It also established more specific procedures to be implemented in the event that Native American remains are discovered.

California Health and Safety Code (Sections 7050.5, 7051, and 7054)

Sections 7050.5, 7051, and 7054 of the California Health and Safety Code collectively address the illegality of interference with human burial remains (except as allowed under applicable sections of the PRC), as well as the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project, treatment of the remains prior to, during and after evaluation, and reburial procedures.

Senate Bill 18

Signed into law in 2004, Senate Bill (SB) 18 requires that cities and counties notify and consult with California Native American Tribes about proposed local land use planning decisions for the purpose of protecting traditional tribal cultural sites. Cities and counties must provide general and specific plan amendment proposals to California Native American Tribes that have been identified by the Native American Heritage Commission as having traditional lands located within the city's boundaries. If requested by the Native American Tribes, the city must also conduct consultations with the tribes prior to adopting or amending their general and specific plans.

Assembly Bill 52 (Gatto, 2014)

On September 25, 2014, Governor Brown signed AB 52. AB 52 establishes a tribal consultation procedure designed to incorporate tribal knowledge into the CEQA environmental review and decision-making processes. Under AB 52, California tribes have the ability to establish, through a formal notice letter, a standing request to consult with a lead agency regarding any proposed project subject to CEQA in the geographic area with which the tribe is traditionally and culturally affiliated. Within 14 days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency must provide formal notification to the designated contact or tribal representative of traditionally and culturally affiliated California Native American tribes that have requested notice. Notice to the tribes must include a brief project description, the project location, and the lead agency's contact information. A tribe then has 30 days to request consultation. If the tribe does not respond in that period or writes to decline consultation, the lead agency has no further obligation. If the tribe requests consultation, the lead agency must begin the consultation within 30 days and prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report for that proposed project. The Town has not received a standing request for AB 52 consultation from any tribes.

Local

Town of Tiburon Municipal Code

Title IV, Chapter 13B, *Historic Landmarks*, promotes the general and economic welfare of the Town by preserving, enhancing, or perpetuating those places, buildings, structures, works of art and other objects having a special historical interest or value for their use, education and view of the general public. Chapter 13B sets procedures and criteria for designations of historical landmarks of the Town. Conditions may be recommended for designated historical landmarks, including but not limited to: the prohibition of demolition, removal, or alternations other than routine maintenance and repair work without approval of the heritage and arts commission; restriction of allowed or permitted uses; that no buildings or structures exposed to public view within a specified distance of the historical landmark may be placed, erected, moved, removed, enlarged, or altered (excepting routine maintenance

and repair work) in a manner that would materially detract from the public visibility and/or enjoyment of the historical landmark, without prior review and approval by the heritage and arts commission; or any other reasonable requirements, restrictions or conditions deemed necessary or appropriate to meet special or unique circumstances affecting the place, building, structure, work of art or other object to be designated as a historical landmark.

Title IV, Chapter 16, *Zoning*, also known as the Tiburon Zoning Ordinance, establishes development standards designed, in part, to ensure conservation of the Town's historic resources. The Zoning Ordinance and Zoning Map establishes the Historic Protection Overlay (HPO) zone, which serves to protect, maintain and enhance historic structures in the downtown area that are included in the Town's local historic inventory of buildings located in downtown Tiburon (i.e., Inventory), as adopted by the Town Council. Inclusion of the buildings within the inventory in the HPO acknowledges the protection of historic resources as provided by CEQA and allows application of the California State Historic Building Code to the buildings included therein.

3.4.3 THRESHOLDS OF SIGNIFICANCE

Appendix G of the California Environmental Quality Act (CEQA) Guidelines contains the Initial Study Environmental Checklist, which includes questions related to cultural resources. The issues presented in the Initial Study Environmental Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant environmental impact if it would:

- Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5;
- Disturb any human remains, including those interred outside of formal cemeteries; and/or
- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
    - Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k); and/or
    - A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead

agency shall consider the significance of the resource to a California Native American tribe.

3.4.4 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

Impact 3.4-1 **Development facilitated by the Project has the potential to cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.**

Known historic resource sites are located throughout the Planning Area, as described above, and undiscovered or potentially eligible sites may be located in various areas of the Planning Area. Redevelopment and alteration of existing structures has the potential to impact known and potentially eligible historical resources. A substantial adverse change in the significance of an historic resource is defined in Section 15064.5 (b)(1) of the CEQA Guidelines as the "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired."

Within the Planning Area, there are 142 recorded cultural resources from prehistoric and historic periods; five properties and two Districts identified by the NRHP; five local historic landmarks; and numerous buildings downtown that are potentially historically significant and/or eligible for the State's Historical Building Code. These historic resources are located throughout the Planning Area and vary in terms of type, architectural style, condition, and alteration history. While the General Plan Update does not directly propose any changes to any historic resources, future development allowed under the General Plan Update could cause a substantial adverse change in the significance of known historical resources or unknown historical resources which have not yet been identified. This is considered a potentially significant impact.

The General Plan Land Use, Downtown, and Conservation Chapters include policies and programs addressing historical resources. Policy LU-14 encourages and supports the State of California in the management of Angel Island State Park to protect the natural character and preserve the historic resources of the island. Policy C-16 protects significant geological, ecological, archaeological, tribal cultural, and paleontological resources and historic sites. Program C-c requires that projects proposed for sites that have the possibility of containing cultural and tribal cultural resources and resulting in ground disturbance be evaluated by a qualified archaeologist prior to project approval and requires such projects to implement measures to reduce or avoid impacts to any identified or inadvertently discovered cultural and tribal cultural resources. Policy C-17 preserves and protects structures and properties which have historical, cultural, aesthetic, or other special character or interest to the Town. Program C-d considers adopting an overlay zone for the area containing the Town's Inventory of Local Historical Buildings and adopting additional protection measures for the structures identified in the Inventory. Policy DT-10 encourages preservation of significant

historic buildings and resources in the Downtown. Policy DT-11 requires the character-defining elements of buildings listed on the Town's Inventory of Local Historical Buildings to be retained, preserved, and restored wherever feasible. Policy DT-12 addresses the preservation of Ark Row retaining and rehabilitating the historic arks, cottages, and other resources of Ark Row.

As future development and infrastructure projects are considered by the Town, each project would be evaluated for conformance with the General Plan, Municipal Code, and other applicable State and local regulations relative to historic and potentially historic resources. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA, pursuant to the Town's entitlement review process. Per Chapter 13B of the Municipal Code, potential historic resources may be considered for a historical landmark designation and would be afforded protections such as requiring approval by the heritage and arts commission to demolish, remove, change, repair, or alter the appearance of the designated historical resource. Additionally, the Tiburon Zoning Ordinance includes the HPO zone. Inclusion of the buildings within the inventory in the HPO zone acknowledges the protection of historic resources as provided by CEQA and allows application of the California State Historic Building Code to the buildings included therein. Further, for all structures that have potential historical significance, the Town would require preparation of a study by a qualified professional archaeologist or historian to determine the significance of the structure and potential impacts of the proposed development in compliance with CEQA. Therefore, through compliance with existing regulations related to historical resources and implementation of the General Plan Update policies and programs, the General Plan Update would not cause a substantial adverse change in the significance of a historical resource and impacts would be **less than significant**.

Mitigation Measures

None required.

Impact 3.4-2 **Development facilitated by the Project has the potential to cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5.**

Redevelopment and development of previously undeveloped areas have the potential to impact known and unknown archaeological resources. Surface-level and subsurface archaeological sites and deposits can be affected by ground-disturbing activities associated with construction activities.

Within the Planning Area, there are 142 recorded cultural resources from prehistoric and historic periods. Effects on archaeological resources deemed to be significant could be considered adverse if they involve physical demolition, destruction, or alteration of the resource or its immediate surroundings such that the significance of a resource would be materially impaired. While the General Plan Update does not directly propose site-specific

development with the potential to directly impact archaeological resources, future development allowed under the General Plan Update could cause a substantial adverse change in the significance of known or unknown archaeological resources. This is considered a potentially significant impact.

The General Plan Update Conservation and Open Space, Parks and Recreation Chapters include goals, policies, and programs addressing cultural resources, including archeological resources. Policy C-16 protects significant geological, ecological, archaeological, tribal cultural, and paleontological resources and historic sites. Program C-c requires that projects proposed for sites that have the possibility of containing cultural and tribal cultural resources and resulting in ground disturbance be evaluated by a qualified archaeologist prior to project approval and requires such projects to implement measures to reduce or avoid impacts to any identified or inadvertently discovered cultural and tribal cultural resources. When encountering unanticipated cultural resources, artifacts, or human remains, contractors shall cease construction activities upon until proper authorities have been notified and a mitigation plan is developed. Goal OS-B seeks to permanently preserve as much open space as possible to protect shorelines, open water, wetlands, significant ridgelines, streams, drainageways, riparian corridors, steep slopes, rock outcroppings, special status species and their habitat, woodlands, cultural and historic resources, and areas of visual importance, such as views of and views from open space.

Archaeological resources are protected under federal, State, and local regulations as described above and implementation of General Plan Update policies and programs would reduce potential adverse impacts to archaeological resources associated with future development. Subsequent development and infrastructure projects would be analyzed for potential environmental impacts, consistent with the requirements of CEQA, pursuant to the Town's entitlement review process. Through compliance with existing regulations and the General Plan Update policies and programs, the General Plan Update would not cause a substantial adverse change in the significance of an archaeological resource and impacts would be **less than significant**.

Mitigation Measures

None required.

Impact 3.4-3 **Development facilitated by the Project has the potential to disturb human remains, including those interred outside of formal cemeteries.**

Future construction projects within the Project Area could have the potential to disturb or destroy buried Native American human remains as well as other human remains, including those interred outside of formal cemeteries.

Health and Safety Code Section 7050.5, CEQA Guidelines Section 15064.5(e), and PRC Section 5097.98 mandate the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery. In the event that human

remains are discovered during ground disturbing activities, the County coroner must be called in to assess the remains (Section 15064.5[e] of the CEQA Guidelines). If the County coroner determines that the remains are those of a Native American, the Native American Heritage Commission (NAHC) must be contacted within 24 hours, and the provisions for treating or disposing of the remains and any associated grave goods as described in Section 15064.5 of the CEQA Guidelines must be followed.

As future development and infrastructure projects are considered by the Town, each project would be evaluated for conformance with the Town's General Plan, Municipal Code, and other applicable State regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. Under CEQA, human remains are protected under the definition of archaeological materials as being "any evidence of human activity." Public Resources Code Section 5097 has specific stop-work and notification procedures to follow in the event that Native American human remains are inadvertently discovered during development activities.

The General Plan Update Conservation Chapter includes policies and programs addressing cultural resources, including human remains. Policy C-16 protects significant geological, ecological, archaeological, tribal cultural, and paleontological resources and historic sites. Program C-c requires that projects proposed for sites that have the possibility of containing cultural and tribal cultural resources and resulting in ground disturbance be evaluated by a qualified archaeologist prior to project approval and requires such projects to implement measures to reduce or avoid impacts to any identified or inadvertently discovered cultural and tribal cultural resources. When encountering unanticipated cultural resources, artifacts, or human remains, contractors shall cease construction activities upon until proper authorities have been notified and a mitigation plan is developed.

Subsequent development and infrastructure projects would be analyzed for potential environmental impacts, consistent with the requirements of CEQA, pursuant to the Town's entitlement review process. Compliance with the General Plan Update policies and programs and existing regulations, including Health and Safety Code Section 7050.5, CEQA Guidelines Section 15064.5(e), and PRC Section 5097.98, would ensure that potential impacts associated with the inadvertent discovery of human remains would be reduced to **less than significant**.

Mitigation Measures

None required.

Impact 3.4-4	**Development facilitated by the Project has the potential to cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k); and/or resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.**

According to the NAHC, the Planning Area is located within the traditional lands or cultural places associated with the Federated Indians of Graton Rancheria and the Guidiville Indian Rancheria. Information including the records search and documented history of the area indicates the Project Area may contain tribal cultural resources.

Prehistoric archaeological sites and isolates are tribal cultural resources; additionally, plants and other natural resources, as well as geographic locations can also be tribal cultural resources. Grading of original in situ soils could expose buried tribal cultural resources and features including sacred sites. While the General Plan Update does not directly propose site-specific development with the potential to directly impact a tribal cultural resource, future development allowed under the General Plan Update could cause a substantial adverse change in the significance of a tribal cultural resource. This is considered a potentially significant impact.

The General Plan Update Conservation and Open Space, Parks and Recreation Chapters include goals, policies, and programs addressing cultural resources, including tribal cultural resources. Policy C-16 protects significant geological, ecological, archaeological, tribal cultural, and paleontological resources and historic sites. Program C-c requires that projects proposed for sites that have the possibility of containing cultural and tribal cultural resources and resulting in ground disturbance be evaluated by a qualified archaeologist prior to project approval and requires such projects to implement measures to reduce or avoid impacts to any identified or inadvertently discovered cultural and tribal cultural resources. When encountering unanticipated cultural resources, artifacts, or human remains, contractors shall cease construction activities upon until proper authorities have been notified and a mitigation plan is developed. Goal OS-B seeks to permanently preserve as much open space as possible to protect shorelines, open water, wetlands, significant ridgelines, streams, drainageways, riparian corridors, steep slopes, rock outcroppings, special status species and their habitat, woodlands, cultural and historic resources, and areas of visual importance, such as views of and views from open space.

Potential impacts to tribal cultural resources associated with future development would be reduced through implementation of General Plan Update policies and programs. Subsequent development and infrastructure projects would be analyzed for potential environmental impacts, consistent with the requirements of CEQA, pursuant to the Town's entitlement review process. Subsequent projects implemented in accordance with the project would be subject to the provisions of AB 52 and may require tribal consultation with California Native American tribes that are traditionally and culturally affiliated with the Planning Area. Future AB 52 consultation may identify tribal cultural resources not yet found and formally recorded that could be impacted by subsequent projects. Therefore, through compliance with the General Plan Update policies and programs and existing regulations, the General Plan Update would not cause a substantial adverse change in the significance of a tribal cultural resource and impacts would be **less than significant.**

Mitigation Measures

None required.

Impact 3.3-6 **Development facilitated by the Project, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to cultural resources.**

Cultural resource impacts are site specific and generally do not combine to result in cumulative impacts. Construction of individual development projects allowed under the land use designations of General Plan Update may result in the discovery and removal of cultural resources, including historic, archaeological, and tribal cultural resources, as well as the inadvertent discovery of human remains, including Native American remains. The General Plan Update policies and programs, as well as federal, State, and local regulations, would reduce the risk to resources in the region. As discussed above, site-specific development with the potential to impact known or unknown historic, archaeological, and tribal cultural resources would require a resource assessment to determine the significance of potential resources and if potential impacts are identified, to incorporate mitigation measures to reduce potential impacts to the identified resources. In the event of inadvertent discovery of human remains, Health and Safety Code Section 7050.5, CEQA Guidelines Section 15064.5(e), and PRC Section 5097.98 would dictate the proper identification and handling. Adherence to the General Plan Update policies and programs, and existing federal, State, and local regulations would avoid and/or minimize a cumulative loss of these important resources if they are identified during project-specific surveys or construction activities. Therefore, the General Plan Update's incremental contribution to cumulative cultural resource impacts would be less than cumulatively considerable.

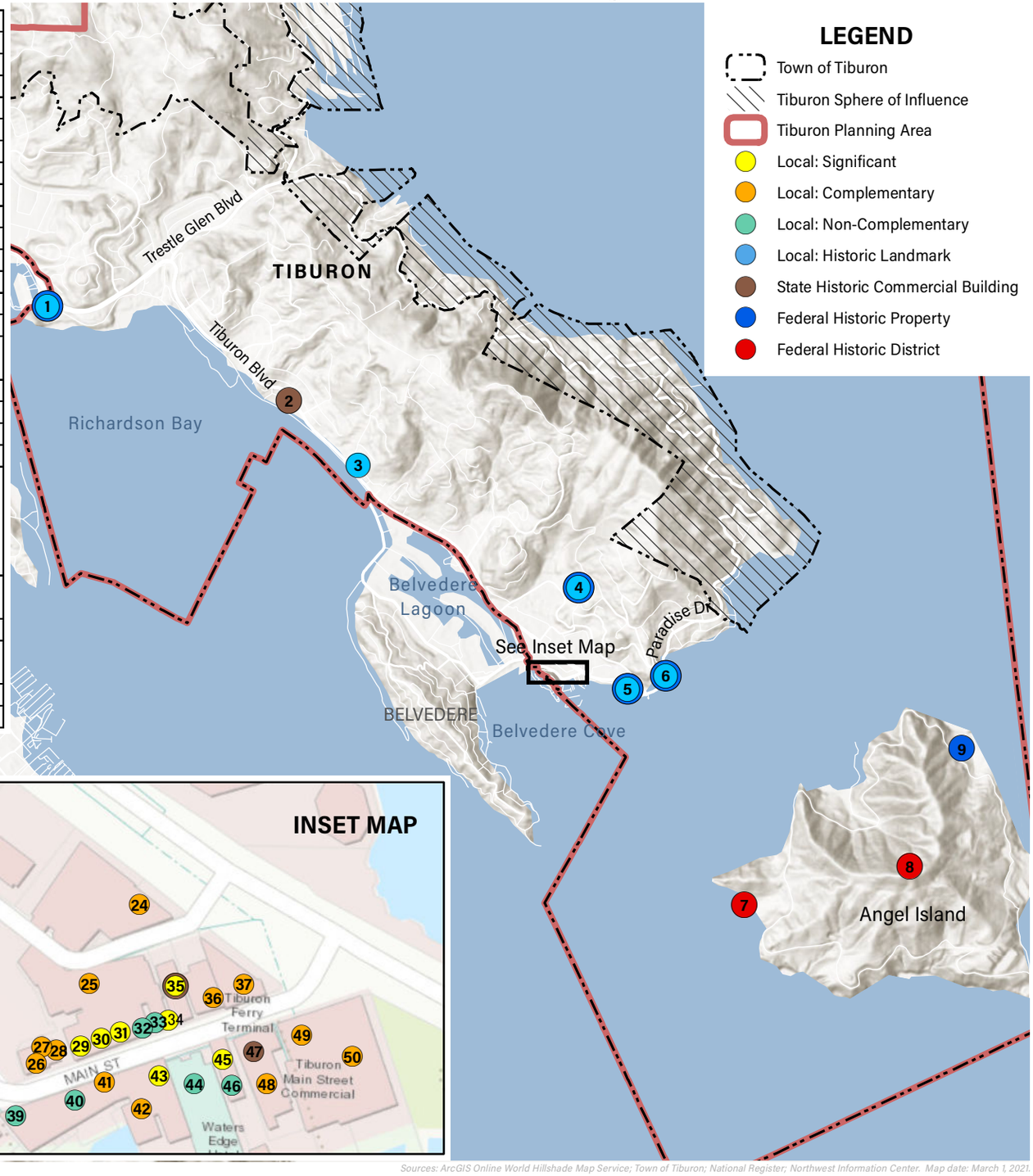
Mitigation Measures

None required.

Figure 3.4-1: Historic Sites

ID	Name
1	Benjamin and Hilarita Lyford House
2	Belvedere Tennis Club
3	Brick Kiln Bunkhouse
4	St. Hilary's Mission Chruch
5	SFNP Railroad Station House-Depot
6	Lyford's Stone Tower
7	Camp Reynolds NRHP District
8	Angel Island
9	Angel Island U.S. Immigration Station
10	Main Street Properties
11	Just Nailed Manicuring/Next Salon
12	Alterations & Dressmaking by Trudy
13	Ark Angels
14	Servino Restaurant
15	Residential/Ed's Garage Antique Car Display
16	Tiburon Deli
17	Not Listed
18	Schoenberg Guitars
19	Switzer Galleries/Attorney
20	Tiburon Books/Parsley's/Stephens Antiques/Tiburon Shoe Repair/The Attic/Still Life/Office/Tiburon Mail Service/For Paws/Tiburon Physical Therapy/Tiburon Thrift Shop/Business Services
21	Attorney/Creature Comforts/Abaya/Bucky's Place
22	Giftique/Ruth Livingston Interior
23	Windsor Vineyards
24	New Morningside Café and Paradise
25	Tiburon Playhouse

ID	Name
26	Westerly Tea
27	For Her
28	Not Listed
29	Rooney's Café and Grill
30	Han Syi Studio/Masson Real Estate
31	Junelles Gifts
32	R.J. Sax
33	Watch Store
34	Mark Rueben Gallery
35	Harbor Light
36	St. Angelo's
37	Little Angels/Portofino/St. Angelo's
38	Not Listed
39	Tiburon Tommies (was Pharmacy)
40	National Emergency Services
41	Sweden House Bakery
42	Store
43	Sam's Café Anchor Restaurant
44	Bird & Hound General Store
45	Not Listed
46	Main Treat
47	Not Listed
48	Waypoint Pizza/Silk, Satin & Lace/Old Gold Jewel
49	Tutto Mare
50	Guyamas/Boudin/Candy Store



Sources: ArcGIS Online World Hillshade Map Service; Town of Tiburon; National Register; Northwest Information Center. Map date: March 1, 2021.

3.5 ENERGY

This section of the Draft EIR is intended to provide an overall perspective on energy consumption to address the requirement in the California Environmental Quality Act (CEQA), Public Resources Section 21100(b)(3) that an EIR include mitigation measures that are proposed to reduce the wasteful, inefficient, and unnecessary consumption of energy. This section contains an analysis of the potentially significant energy implications relevant and applicable to the General Plan 2040 as outlined in CEQA Guidelines, Appendix F. Future discretionary projects facilitated by the General Plan 2040 will be evaluated for project-specific impacts to energy at the time they are proposed.

Energy resources include electricity, natural gas, and other fuels. The production of electricity and other usable energy often requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources, into usable energy. Energy production and use can each result in the depletion of nonrenewable resources (e.g., oil, natural gas, coal, etc.) and emission of pollutants.

Energy usage related to the General Plan 2040 includes direct consumption for heating and cooling, electric facilities, and lighting. Indirect energy consumption is associated with the generation of electricity at power plants. Transportation-related energy consumption includes the use of fuels and electricity to power cars, trucks, and public transportation. Energy is also consumed by equipment and vehicles used during Project construction and routine maintenance activities. This analysis considers whether the General Plan 2040 would result in inefficient, wasteful, and unnecessary consumption of energy.

This section provides background information on energy resources and contains an analysis of the impacts that the General Plan 2040 may have on the consumption of energy, including but not limited to the measures proposed to minimize the environmental effects of the consumption of energy that is wasteful, inefficient, or unnecessary. Energy consumption as an environmental impact is also evaluated and discussed in other sections of the Revised Draft EIR, including Section 3.2, Air Quality; Section 3.7, Greenhouse Gas Emissions; Section 3.14, Transportation; and Section 3.15, Utilities and Service Systems. See Appendix B for supporting information.

Information in this section was developed based on data provided by the following documents/resources:

- Marin Clean Energy;
- Marin Climate & Energy Partnership;
- Pacific Gas & Electric Company;
- California Energy Commission;
- California Public Utilities Commission;

- Town of Tiburon Climate Action Plan, Marin Climate & Energy Partnership, Adopted September 21, 2022; and
- Traffic modeling and analysis prepared by GHD (traffic consultant).

3.5.1 EXISTING SETTING

Electricity

Electricity, a consumptive utility, is a man-made resource. The production of electricity requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources, into energy. The delivery of electricity involves several system components, including substations and transformers that lower transmission line power (voltage) to a level appropriate for on-site distribution and use. The electricity generated is distributed through a network of transmission and distribution lines commonly called a power grid. Conveyance of electricity through transmission lines is typically responsive to market demands.

Energy capacity, or electrical power, is generally measured in watts while energy use is measured in watt-hours. For example, if a light bulb has a capacity rating of 100 watts, the energy required to keep the bulb on for 1 hour would be 100 watt-hours. If ten 100-watt bulbs were on for 1 hour, the energy required would be 1,000 watt-hours or 1 kilowatt-hour (kWh). On a utility scale, a generator's capacity is typically rated in megawatts, which is a million watts, while energy usage is measured in megawatt-hours or gigawatt-hours (GWh), which is one billion watt-hours.

Pacific Gas & Electric Company (PG&E) service area stretches from Eureka in the north to Bakersfield in the south, and from the Pacific Ocean in the west to the Sierra Nevada Mountains in the east. PG&E owns and maintains 106,681 circuit miles of electric distribution lines and 18,466 circuit miles of interconnected transmission lines. Approximately 5.4 million electric customer accounts are served by PG&E.[1] In 2018, PG&E provided approximately 80,369 GWh of electricity to its customers. Electricity consumption within PG&E's service area by sector is displayed in Table 3.5-1. Electricity consumption within Marin County for 2018 is displayed in Table 3.5-2.

TABLE 3.5-1: ELECTRICITY CONSUMPTION WITHIN PG&E'S SERVICE AREA (2018)

ENERGY USAGE CATEGORY	GWH	PERCENT
INDUSTRY	10,519	13.1%
COMMERCIAL	30,148	37.5%
RESIDENTIAL	27,700	34.5%

[1] Pacific Gas and Electric Company. 2020. Company Profile. Website: https://www.pge.com/en_US/about-pge/company-information/profile/profile.page. Accessed April 20, 2020.

ENERGY USAGE CATEGORY	GWH	PERCENT
MINING AND CONSTRUCTION	1,594	2.0%
AGRICULTURE AND WATER PUMPING	5,832	7.3%
STREET LIGHTING	311	0.4%

Source: California Energy Commission. Electricity Consumption by Entity. Website: http://www.ecdms.energy.ca.gov/elecbyutil.aspx. Accessed April 20, 2020.

TABLE 3.5-2: ELECTRICITY CONSUMPTION WITHIN MARIN COUNTY (2018)

SECTOR	GWH	PERCENT
NON-RESIDENTIAL	680	51.2%
RESIDENTIAL	649	48.8%
TOTAL	1,329	100.0%

Source: California Energy Commission, Electricity Consumption by County, http://www.ecdms.energy.ca.gov/elecbycounty.aspx, Accessed April 20,2020.

Account holders with PG&E within the Town can choose to have 60 percent to 100 percent of their electricity supplied from clean, renewable sources such as solar, wind, bioenergy, geothermal, and hydroelectric, through Marin Clean Energy (MCE), a public, not for-profit electricity provider. MCE currently provides energy to residents and businesses within 34 member communities across four Bay Area counties, including Napa, Marin, Contra Costa, and Solano. MCE has 678 megawatts of new, California renewable energy online and under development.[2]

Natural Gas

Natural gas is a combustible mixture of simple hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas consumed in California is obtained from naturally occurring reservoirs, mainly located outside the State, and delivered through high-pressure transmission pipelines. The natural gas transportation system is a nationwide network and, therefore, resource availability is typically not an issue. Natural gas is used in electricity generation, space heating, cooking, water heating, industrial processes, and as a transportation fuel.

Natural gas is provided to the Town through PG&E. PG&E provides natural gas services within 48 counties in California with a total service area of approximately 70,000 square miles in

[2] Marin Clean Energy (MCE). Company Profile. Website: https://www.mcecleanenergy.org/energy-suppliers/. Accessed April 20, 2020.

northern and central California. PG&E provides services with 42,141 miles of natural gas distribution pipelines and 6,438 miles of transportation pipelines. PG&E serves approximately 4.5 million natural gas distribution customers.[3] One therm is approximately 100 cubic feet of natural gas. In 2021, PG&E provided and distributed approximately 4,467 million therms of natural gas to its customers. Natural gas consumption within PG&E's service area by sector is displayed in Table 3.5-3. Natural gas consumption within Marin County for 2021 is displayed in Table 3.5-4.

TABLE 3.5-3: NATURAL GAS CONSUMPTION WITHIN PG&E'S SERVICE AREA (2021)

ENERGY USAGE CATEGORY	MILLION THERMS	PERCENT
INDUSTRY	1,429	32.0%
COMMERCIAL	835	18.7%
RESIDENTIAL	1,877	42.0%
MINING AND CONSTRUCTION	223	5.0%
AGRICULTURE AND WATER PUMPING	52	1.2%
TOTAL	4,467	100%[1]

1. Totals are approximated due to rounding.

Source: California Energy Commission. Gas Consumption by Entity. Website: http://www.ecdms.energy.ca.gov/gasbyutil.aspx. Accessed March 1, 2023.

TABLE 3.5-4: NATURAL GAS CONSUMPTION WITHIN MARIN COUNTY (2021)

SECTOR	MILLION THERMS	PERCENT
NON-RESIDENTIAL	18	26.5%
RESIDENTIAL	50	73.5%
TOTAL	68	100.0%

Source: California Energy Commission. Gas Consumption by County. Website: http://www.ecdms.energy.ca.gov/gasbycounty.aspx. Accessed March 1, 2023.

California Energy Consumption

According to the California Energy Commission (CEC), total system electric generation for California in 2019 was 277,764 GWh. California's in-State electric generation was 194,127 GWh and electricity imports were 83,636 GWh. California's non-CO_2 emitting electric

[3] Pacific Gas and Electric Company (PG&E). 2023. Company Profile. Website: https://www.pge.com/en_US/about-pge/company-information/profile/profile.page. Accessed March 1, 2023.

generation categories (biomass, geothermal, small hydroelectric, solar, and wind), which generated 67,461 GWh, accounted for 35 percent of total in-State generation for 2021. The in-State renewable generation included 5,381 GWh from biomass, 11,116 GWh from geothermal, 2,531 GWh from small hydroelectric power plants, 33,260 GWh from solar, and 15,173 GWh from wind.[4]

According to the CEC, nearly 45 percent of the natural gas burned in California was used for electricity generation, with the remainder consumed in the residential (21 percent), industrial (25 percent), and commercial (9 percent) sectors. In 2012, total natural gas demand in California for industrial, residential, commercial, and electric power generation was 2,313 billion cubic feet.[5]

According to the CEC, gasoline has remained the dominant fuel within the transportation sector, with diesel fuel and aviation fuels following. In 2021, California consumed approximately 13.8 billion gallons of gasoline and approximately 4.2 billion gallons of diesel fuel.[6,7] An increasing amount of electricity is being used for transportation energy, which is chiefly attributed to the acceleration of light-duty plug-in electric vehicles.

3.5.2 REGULATORY SETTING

Federal and State agencies regulate energy use and consumption through various programs. The Federal Energy Regulatory Commission (FERC) is an independent agency that regulates the transmission and sales of electricity, natural gas, and oil in interstate commerce, licensing of hydroelectric projects, and oversight of related environmental matters. The regulation and enforcement of interstate transmission sales is also regulated by FERC. The United States Department of Transportation (USDOT), United States Department of Energy, and the United States Environmental Protection Agency (EPA) are three agencies with substantial influence over energy policies and programs. Generally, federal agencies influence transportation energy consumption through establishment and enforcement of fuel economy standards for automobiles and light trucks, through federal taxes on fuel, through funding of energy-

[4] California Energy Commission (CEC). 2023. Total System Electric Generation. Website: https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2021-total-system-electric-generation. Accessed March 1, 2023.

[5] California Energy Commission (CEC). 2023. Supply and Demand of Natural Gas in California. Website: https://www.energy.ca.gov/data-reports/energy-almanac/californias-natural-gas-market/supply-and-demand-natural-gas-california. Accessed March 1, 2023.

[6] California Energy Commission (CEC). 2023. California Gasoline Data, Facts, and Statistics. Website: https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-gasoline-data-facts-and-statistics. Accessed March 1, 2023.

[7] California Energy Commission (CEC). 2023. Diesel Fuel Data, Facts, and Statistics. Website: https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/diesel-fuel-data-facts-and-statistics. Accessed March 1, 2023.

related research and development projects, and through funding for transportation infrastructure projects.

On the State level, the California Public Utilities Commission (CPUC) and CEC are the two agencies with authority over different aspects of energy. The CPUC regulates privately owned utilities in the energy, rail, telecommunications, and water fields. The CEC collects and analyzes energy-related data, prepares Statewide energy policy recommendations and plans, promotes and funds energy efficiency programs, and regulates the power plant siting process.

At the local level, the Town, through its regulatory and planning activities, directly influences how, and to what extent, energy is used in the town. Local regulations governing the design, construction and use of buildings affect operational energy needs. Transportation and land use policy decisions directly and indirectly affect petroleum-based fuel use (e.g., mixed use land uses and improved pedestrian systems) and can affect reliance on the private automobile.

Some of the more relevant federal, State, and local energy-related laws and plans are discussed below.

Federal

Energy Policy and Conservation Act

The Energy Policy Act of 1975 (1975 Act) was established in response to the oil crisis of 1973, which increased oil prices due to a shortage of reserves. The 1975 Act required that all vehicles sold in the United States meet certain fuel economy goals. Under the 1975 Act, Corporate Average Fuel Economy (CAFE) standards were established. The CAFE standards are fleet-wide averages that must be achieved by each automaker for its car and truck fleet, each year, since 1978. Since 1990, the fuel economy standard for new passenger cars has been 27.5 miles per gallon.[8] Since 1996, the fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 to 23.5 miles per gallon.[9] Heavy-duty vehicles (i.e., vehicles and trucks over 8,500 pounds gross vehicle weight) are not subject to fuel economy standards. This 1975 Act indirectly applies to the General Plan 2040 due to its requirements for increased fuel economy standards particularly for the construction equipment to be used.

In 2022, the U.S. Department of Transportation's National Highway Traffic Safety Administration announced new, landmark fuel economy standards which follow Executive Order 13990. The Corporate Average Fuel Economy (CAFE) standards require an industry-wide fleet average of approximately 49 miles per gallon (mpg) for passenger cars and light

[8] United States Department of Transportation (USDOT). 2014. Summary of Fuel Economy Performance. December 15.

[9] United States Department of Transportation (USDOT). 2014. Summary of Fuel Economy Performance. December 15.

trucks in model year 2026, which will increase fuel efficiency 8% annually for model years 2024-2025 and 10% annually for model year 2026. They will also increase the estimated fleetwide average by nearly 10 miles per gallon for model year 2026, relative to model year 2021.

Energy Policy Act of 1992

The Energy Policy Act of 1992 (1992 Act) set goals, created mandates, and amended utility laws to increase clean energy use and improve overall energy efficiency in the United States. The 1992 Act consists of 27 titles detailing various measures designed to lessen the nation's dependence on imported energy, provide incentives for clean and renewable energy, and promote energy conservation in buildings.

Energy Star Program

In 1992, the EPA introduced Energy Star as a voluntary labeling program designed to identify and promote energy-efficient products to reduce greenhouse gas (GHG) emissions. The program applies to major household appliances, lighting, computers, and building components such as windows, doors, roofs, and heating and cooling systems. Under this program, appliances that meet specifications for maximum energy use established under the program are certified to display the Energy Star label. In 1996, the EPA joined with the United States Department of Energy to expand the program, which now also includes qualifying commercial, industrial, and residential buildings. The Energy Star Most Efficient program was launched in May 2011 to identify and advance highly-efficient products in the marketplace. Its goal is to increase market awareness and promote innovation in these products. This program identifies the most efficient products among those that qualify for Energy Star in certain product categories on an annual basis.

Energy Policy Act of 2005

The Energy Policy Act of 2005 (2005 Act) seeks to reduce reliance on non-renewable energy resources and provide incentives to reduce current demand on these resources. For example, under the 2005 Act, consumers and businesses can attain federal tax credits for purchasing fuel-efficient appliances and products, buying hybrid vehicles, building energy efficient buildings, and improving the energy efficiency of residential and commercial buildings. Additionally, tax credits are available for the installation of qualified fuel cells, stationary micro-turbine power plants, and solar power equipment.

Energy Independence and Security Act

In 2007, the Energy Independence and Security Act was signed into law. The Energy Independence and Security Act aims to move the United States toward greater energy independence and security; increase the production of clean renewable fuels; increase the efficiency of buildings, products, and vehicles; promote research on and deploy GHG capture and storage options; and improve the energy performance of the federal government.

State

California Renewables Portfolio Standard

The California Renewables Portfolio Standard was established in 2002 under Senate Bill (SB) 1078, accelerated in 2006 under SB 107, expanded in 2011 under SB 2, and enhanced in 2015 by SB 350. The Renewables Portfolio Standard program requires investor-owned utilities, publicly owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 50 percent of total procurement by 2030. In 2018, PG&E served approximately 39 percent of its retail electricity sales with renewable power.[10] SB 100, passed in September 2018, accelerates the Renewables Portfolio Standard to achieve a 50 percent renewable resources target by 2026, and contained a 60 percent target by 2030, along with a goal for zero-carbon electricity by 2045.

Reducing Dependence on Petroleum

In response to AB 2076, the CEC and the California Air Resources Board (ARB) prepared and adopted a joint agency report in August 2003, *Reducing California's Petroleum Dependence*. The report addresses both near-term and mid- to long-term strategies to reduce the demand for petroleum fuels in California. The two agencies evaluated various demand reduction options and categorized them as fuel efficiency, fuel substitution, pricing, and other options.[11]

Senate Bill 1

Enacted in 2006, Senate Bill (SB) 1 is the culmination of Governor Schwarzenegger's "Million Solar Roofs Initiative" and builds on the CPUC's California Solar Initiative program, the CEC's New Solar Homes Partnership, and existing publicly-owned utility solar energy system incentive programs. SB 1 directs total expenditures of up to $3,350,800,000 by 2017 with goals to install solar energy systems with a generation capacity equivalent of 3,000 megawatts; to establish a self-sufficient solar industry in 10 years so that solar energy systems are a viable mainstream option for homes and commercial buildings; and in 13 years to put solar energy systems on 50 percent of new homes. The overall goal is to help build a self-sustaining solar electricity market combined with improved energy efficiency in the State's residential and non-residential buildings. In 2015, SB 83 extended the life of the New Solar Homes Partnership. In June 2016, the CPUC approved Decision 16-06-006, which approved the CEC's request to direct the investor owned utilities to collect additional ratepayer funds necessary to continue the New Solar Homes Partnership and achieve the

[10] California Public Utilities Commission (CPUC). 2019. California Renewables Portfolio Standard - Annual Report. November.

[11] California Energy Commission (CEC) and California Air Resources Board (ARB). 2003. Reducing California's Petroleum Dependence. August.

$400 million in program funds originally authorized under SB 1 and designated the CEC as the program administrator of the continued New Solar Homes Partnership program.[12]

Energy Efficiency Act of 2006

AB 2021 encourages all investor-owned and municipal utilities to aggressively invest in achievable, cost-effective, energy efficiency programs in their service territories. The results of AB 2021 are expected to reduce forecasted electricity demand by 10 percent over 10 years from 2006 through 2016, offsetting the projected need to build 11 new major power plants. Since its inception, annual reports have been prepared by the CEC to track progress under AB 2021. The most recent report, "Achieving Cost-Effective Energy Efficiency in California: 2013 Status Update," presents an analysis of energy efficiency data compiled from investor-owned utilities' annual reports filed with the CPUC, and from the California Municipal Utilities Association who, on behalf of publicly owned utilities, annually files reports with the CEC. As a group, publicly-owned utilities achieved 64 percent of their combined annual electricity savings target that was established in 2007. Since 2006, publicly-owned utilities have spent $2.1 billion on energy efficiency and demand reduction programs, resulting in 7,545 GWh of reported first year electricity savings and 1,390 megawatts in peak demand reduction.[13]

Waste Heat and Carbon Emissions Reduction Act

AB 1613, enacted in 2007 and amended by AB 2791 in 2008, directed the CEC, the CPUC, and the ARB to implement the Waste Heat and Carbon Emissions Reduction Act. The Act is designed to encourage the development of new combined heat and power systems in California with a generating capacity of not more than 20 megawatts. The Act directs the CPUC, publicly-owned electric utilities, and the CEC to establish policies and procedures for the purchase of electricity from eligible combined heat and power systems. It also directs the ARB to report on the reduction in GHG emissions resulting from the increase of new electricity generation from combined heat and power systems.[14]

State Alternative Fuels Plan

AB 1007 required the CEC to prepare a State plan to increase the use of alternative fuels in California. In December 2007, the CEC prepared the State Alternative Fuels Plan in partnership with the ARB and in consultation with the other state, federal, and local agencies. The plan presents strategies and actions California must take to increase the use of alternative non-petroleum fuels in a manner that minimizes costs to California and

[12] California Energy Commission (CEC), 2018. Guidelines for California's Solar Electric Incentive Programs (Senate Bill 1), 7th Edition. Website: https://www.energy.ca.gov/publications/2018/guidelines-californias-solar-electric-incentive-programs-senate-bill-i-7th. Accessed March 1, 2023.

[13] California Energy Commission (CEC). 2023. Energy Efficiency in the Public Power Sector. Available: https://www.energy.ca.gov/programs-and-topics/topics/energy-assessment/energy-efficiency-public-power-sector. Accessed March 1, 2023.

[14] California Energy Commission (CEC). Waste Heat and Carbon Emissions Reduction Act. Website: http://www.energy.ca.gov/wasteheat/. Accessed April 20, 2020.

maximizes the economic benefits of in-State production. The plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce GHG emissions, and increase in-State production of biofuels without causing a significant degradation of public health and environmental quality.

Executive Order N-79-20

In September 2020, Governor Gavin Newsom issued Executive Order N-79-20, which requires sales of all new passenger vehicles to be zero-emission by 2035 and additional measures to eliminate harmful emissions from the transportation sector.

2008 Energy Action Plan Update

The State adopted the California Energy Action Plan in 2003, followed by the Energy Action Plan II in 2005. The current plan, the California 2008 Energy Action Plan Update, is California's principal energy planning and policy document. The updated document examines the State's ongoing actions in the context of global climate change, describes a coordinated implementation plan for State energy policies, and identifies specific action areas to ensure that California's energy resources are adequate, affordable, technologically advanced, and environmentally sound. The California 2008 Energy Action Plan Update establishes energy efficiency and demand response (i.e., reduction of customer energy usage during peak periods) as the first-priority actions to address California's increasing energy demands. Additional priorities include the use of renewable sources of power and distributed generation (i.e., the use of relatively small power plants near or at centers of high demand). To the extent that these actions are unable to satisfy the increasing energy demand and transmission capacity needs, clean and efficient fossil-fired generation is supported. The California 2008 Energy Action Plan Update examines policy changes in the areas of energy efficiency, demand response, renewable energy, electricity reliability and infrastructure, electricity market structure, natural gas supply and infrastructure, research and development, and climate change.[15]

2017 Integrated Energy Policy Report

In 2002, the Legislature passed SB 1389, which required the CEC to develop an integrated energy plan biannually for electricity, natural gas, and transportation fuels, for the California Energy Report. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for Zero Emission Vehicles and their

[15] California Energy Commission (CEC). 2008 Energy Action Plan Update. Website: http https://www.cpuc.ca.gov/-/media/cpuc-website/files/uploadedfiles/cpuc_public_website/content/utilities_and_industries/energy_-_electricity_and_natural_gas/2008-energy-action-plan-update.pdf. Accessed March 1, 2023.

infrastructure needs, and encouragement of urban designs that reduce vehicle miles traveled and accommodate pedestrian and bicycle access.

The 2017 Integrated Energy Policy Report, was adopted by the CEC on April 16, 2018, and provides CEC's assessments of a wide variety of energy issues currently facing California.[16] These issues include implementation of SB 350, integrated resource planning, distributed energy resources, transportation electrification, solutions to increase resiliency in the electricity sector, energy efficiency, barriers faced by disadvantaged communities, demand response, transmission and landscape-scale planning, the California Energy Demand Preliminary Forecast, the preliminary transportation energy demand forecast, renewable gas (in response to SB 1383), updates on Southern California electricity reliability, natural gas outlook, and climate adaptation and resiliency.

2019 Energy Efficiency Action Plan

The 2019 Energy Efficiency Action Plan is a comprehensive roadmap to achieving the state's energy efficiency and building decarbonization goals. The Energy Efficiency Action Plan applies key energy efficiency principles to California's energy vision and climate goals to support the development of robust, sustainable efficiency marketplaces that deliver multiple benefits to California residents. The anticipated results are a consistent increase in energy efficiency savings through 2030, much more widespread customer adoption of energy efficient practices and equipment, and overall reduction of GHG emissions from buildings.[17]

Clean Energy and Pollution Reduction Act

In October 2015, Governor Brown signed SB 350, the Clean Energy and Pollution Reduction Act, establishing new clean energy, clean air, and GHG reduction goals for 2030 and beyond. SB 350 increases California's renewable electricity procurement goal from 33 percent by 2020, to 50 percent by 2030. This will increase the use of Renewables Portfolio Standard eligible resources, including solar, wind, biomass, geothermal, and others. In addition, SB 350 requires the State to double Statewide energy efficiency savings in electricity and natural gas end uses by 2030. To help ensure these goals are met and GHG emission reductions are realized, large utilities will be required to develop and submit Integrated Resource Plans. These Integrated Resource Plans will detail how each entity will meet their customers resource needs, reduce GHG emissions, and ramp up the deployment of clean energy resources.[18]

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[16] California Energy Commission (CEC). 2023 Final 2022 Integrated Energy Policy Report Update, Publication Number: CEC-100-2022-001-CMF. February.

[17] California Energy Commission (CEC). 2019 Energy Efficiency Action Plan – Final Commission Report. December.

[18] California Energy Commission (CEC). Clean Energy and Pollution Act SB 350 Overview. Website: http://www.energy.ca.gov/sb350/. Accessed March 1, 2023.

California Building Codes

California's Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations [CCR] Title 24, Part 6) were first established in 1978 to reduce California's energy consumption. Energy efficient buildings require less electricity, natural gas, and other fuels, the use of which creates GHG emissions. The Title 24 standards are updated on a 3-year schedule. On July 1, 2022, the 2022 standards went into effect, that have been designed to lower energy consumption, limit emissions, and enhance energy efficiency. The 2022 updates are meant to foster widespread adoption of electric heat pumps and make sure that new businesses and homes are outfitted with electric-ready natural gas appliances. These updates are also designed to bolster solar storage and energy standards while also increasing ventilation standards. Every new home is expected to be electric-ready, which means that electrical circuits will be available for each appliance. The battery storage and solar standards that were first implemented in the 2019 updates are becoming broader in scope to make sure that they apply to additional nonresidential and residential buildings. Further, most new homes and buildings in California must have one or more appliances that are powered with electricity as opposed to natural gas. Among the most impactful changes that has been incorporated into the 2022 code is the fact that many new commercial buildings and homes are now required to be outfitted with solar batteries and panels. The code currently focuses on new builds until the law allows for updates to be made to existing businesses and homes. The Town

The Green Building Standards Code (also known as CALGreen), which requires all new buildings in the State to be more energy efficient and environmentally responsible, took effect in January 2011. CALGreen is also updated every 3 years and the current version is the 2022 CALGreen that become effective on January 1, 2023. The CALGreen Code contains requirements for construction site selection; stormwater control during construction; construction waste reduction; indoor water use reduction; material selection; natural resource conservation; site irrigation conservation; and more. CALGreen provides for design options allowing the designer to determine how best to achieve compliance for a given site or building condition. CALGreen also requires building commissioning, which is a process for verifying that all building systems (e.g., heating and cooling equipment and lighting systems) are functioning at their maximum efficiency.

CALGreen provides standards for bicycle parking, carpool/vanpool/electric vehicle spaces, light and glare reduction, grading and paving, energy efficient appliances, renewable energy, graywater systems, water efficient plumbing fixtures, recycling and recycled materials, pollutant controls (including moisture control and indoor air quality), acoustical controls, stormwater management, building design, insulation, flooring, and framing, among others. Implementation of CALGreen measures reduces energy consumption and vehicle trips and encourages the use of alternative-fuel vehicles, which reduces pollutant emissions.

Some of the notable changes in the 2022 CALGreen Code over the prior 2019 CALGreen Code include adding mandatory provisions for electric vehicle (EV) charging requirements related

to multifamily developments, hotels, and motels; alterations or additions to existing parking facilities; and new voluntary measures for EV ready spaces and EV chargers for multifamily development projects, hotels, and motels under both Tier 1 and Tier 2.

Regional

Marin Climate & Energy Partnership

Created in 2007, the mission of the Marin Climate & Energy Partnership (MCEP) is to reduce GHG emissions levels to the targets of Marin County and local municipalities, consistent with the standards set by AB 32. All 11 Marin Cities and towns, the Marin County Community Development Agency, the Transportation Authority of Marin, and the Marin Municipal Water District are members. MCEP annually produces GHG Emissions Inventories all of the Marin jurisdictions as well as Climate Action Plans (CAPs). Partner members have agreed to use their adopted CAPs to identify mutual measures to reduce community-wide GHG emissions and develop policies and programs to support priority measures. The Town worked closely with the MCEP to complete its 2022 CAP and implement a coordinated approach to local and regional emissions reduction targets and climate action planning goals.

Local

Tiburon General Plan

The existing General Plan includes goals, policies, and implementation measures that assist in reducing or avoiding impacts to energy. These goals, policies, and implementation measures are found in the Open Space and Conservation Element and Circulation Element.

Tiburon Municipal Code

Article II, 13.4-10 of the Tiburon Municipal Code (Energy Code) adopts the 2019 California Energy Code, Title 24, Part 6.

Chapter 13E (Water Efficient Landscape) contains regulations to support water conservation. All landscaping proposed for review and/or approval by the City shall comply with the provisions of the Marin Municipal Water District Water Efficient Landscape Regulations.

Chapter 13.17 (Recycling and Diversion of Construction and Demolition (C&D) Waste) addresses construction and demolition reporting and diversion requirements for construction and demolition waste. The diversion requirements specified in the code for a project and for a certified recycling facility shall be a minimum of ninety percent on December 31, 2018, and ninety-four percent on December 31, 2025.

Tiburon Climate Action Plan

The Town's CAP was updated and adopted in 2022.[19] The Town's CAP includes strategies and actions related to energy conservation and efficiency in the following areas:

RE-C1: Renewable Energy Generation and Storage. Accelerate installation of residential and commercial solar and other renewable energy systems and energy storage systems.

RE-C2: GHG-Free Electricity. Encourage residents and businesses to switch to 100% renewable electricity (MCE Deep Green, MCE Local Sol, and PG&E Solar Choice) through engagement campaigns and partner agency incentives and work with MCE Clean Energy to assure that it reaches its goal to provide electricity that is 95% GHG-free by 2022. Target 15% of the electricity load to be Deep Green in 2030.

RE-C3: Building and Appliance Electrification. Accelerate electrification of building systems and appliances that currently use natural gas, including heating systems, hot water heaters, stoves, ranges, and clothes dryers.

1. Explore opportunities to continue existing rebate programs, such as Electrify Marin and BayREN, and promote them to the community by illustrating the financial and health benefits of electrification.

2. Study alternatives and draft regulations for Council consideration that requires homeowners and landlords to replace natural gas appliances, such as water heaters, stoves, cooktops, clothes dryers, and heating systems with high-efficiency electric appliances at time of replacement where feasible. Educate the public about the health hazards of owning and operating natural gas appliances and available incentives and rebates to replace them.

3. Prohibit the use of natural gas end uses in new residential buildings in the Town's green building ordinance that aligns with the 2022 California Building Standards code update. Extend the same prohibition to new nonresidential buildings in the 2025 code cycle, if not earlier.

4. Collaborate with the County's work to update the Green Building Code and develop a model ordinance that all Marin jurisdictions can utilize in establishing requirements for new residential, multi-family, and commercial buildings and remodels and renovations be all-electric, thereby creating consistency across all jurisdictions.

RE-C4: Innovative Technologies. Investigate and pursue innovative technologies such as micro-grids, battery storage, and demand-response programs that will improve local resilience and the electric grid's resiliency and help to balance demand and renewable energy production in cooperation with local and regional partners such as MCE and PG&E, as feasible.

[19] Town of Tiburon. 2022. Town of Tiburon Climate Action Plan 2030. September 21.

RE-M1: Municipal 100% Renewable Electricity. Install solar energy systems at all municipal buildings and facilities where feasible and investigate and pursue innovative technologies such as battery storage and demand response programs for them. Where feasible, replace natural gas appliances/equipment with electric and electrify all Town buildings and facilities, where feasible. Continue to purchase 100% renewable energy for Town buildings, facilities, and vehicles through programs such as MCE Deep Green.

EE-C1: Energy Efficiency Programs. Promote and expand participation in residential and commercial energy efficiency programs.

EE-C2: Energy Audits. Investigate requiring energy audits for residential and commercial buildings at time of sale or major remodel. Requirements could include identification of electrification and energy efficiency opportunities and supporting programs could connect building owners to potential rebates and financing options.

EE-C3: Cool Pavement and Roofs. Use reflective, high albedo material for roadways, parking lots, sidewalks, and cool roofs to reduce the urban heat island effect and save energy.

EE-C4: Green Building Reach Code. Adopt a green building ordinance for new and remodeled commercial and residential projects that requires green building methods, materials, and efficiency above the State building and energy codes. Consider adoption of low embodied-carbon concrete standards similar to those adopted by the County.

EE-C5: Streamline Permit Process and Provide Technical Assistance: Analyze current green building permit and inspection process to eliminate barriers and provide technical assistance to ensure successful implementation of green building requirements. Work countywide to make it easier for contractors and building counter staff to simplify applications and identify incentives.

EE-C6: Sustainable Building Materials: Study alternatives and draft regulations that require use of Forest Stewardship Council certified material in new constructions, major remodels, and outdoor use and that prohibit use of non-certified old-growth and other materials.

EE-M1: Public Lighting: Replace remaining inefficient street, parking lot, and other outdoor lighting with LED fixtures.

EE-M2: Energy Efficiency Audit and Retrofits in Town Buildings: Work with the Marin Energy Management Team to identify and implement energy efficiency projects in municipal buildings and facilities and electrification of existing building systems and equipment that use natural gas.

EE-M3: Energy Conservation in Town Buildings: Reduce energy consumption through behavioral and operational changes.

3.5.3 THRESHOLDS OF SIGNIFICANCE

According to the CEQA Guidelines Appendix G, the General Plan 2040 would have a significant impact related to energy resources if it would:

- Result in the wasteful, inefficient, or unnecessary consumption of energy during project construction or operation, including transportation energy; or
- Conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

3.5.4 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

Impacts related to energy resources resulting from implementation of the General Plan 2040 are discussed below. This analysis is based on operational energy demand that would result from projected future growth at buildout of the General Plan 2040. The California Emissions Estimator Model (CalEEMod Version 2020.4.0) was used to compute energy demand (see Appendix B).

Impact 3.5-1 **Development facilitated by the General Plan would not result in the wasteful, inefficient, or unnecessary consumption of energy during project construction or operation, including transportation energy.**

Implementation of the General Plan 2040 would utilize energy resources during construction and operational activities. Energy resources that would be potentially impacted include electricity, natural gas, and petroleum-based fuel supplies and distribution systems.

Construction Energy Usage

The General Plan 2040 does not expressly authorize any specific construction projects. The land use patterns in the General Plan 2040 would not be substantially different from existing land use patterns. Moreover, the incremental potential growth in residential and non-residential uses would be infill development and would occur within the fabric of already developed areas throughout the Town. By encouraging residential, commercial, and industrial development within already developed and urban areas, the concentration of population, employment, and services allows for more efficient use of energy. Construction activities associated with individual development projects under the General Plan 2040 would consume energy in the form of petroleum fuel for heavy equipment, as well as from worker trips and material delivery trips to the construction sites. Temporary electrical grid power may also be provided to construction sites. It is too speculative at this time to calculate energy usage associated with construction activities because the details regarding future construction activities are not known, including phasing, construction duration, and construction equipment. It should be noted that subsequent environmental review of future development projects would be required to assess potential construction-related energy consumption impacts.

New development would be subject to energy conservation requirements in the California Energy Code (Title 24, Part 6, of the California Code of Regulations, California's Energy Efficiency Standards for Residential and Nonresidential Buildings) and CALGreen (Title 24, Part 11 of the California Code of Regulations).

The Municipal Code contains rules and regulations to reduce energy usage during construction. Chapter 8.54 promotes the redirection of recyclable materials generated during construction away from landfills. All project applicants are required to complete and submit a recycling management plan to estimate the volume of debris to be generated during construction and the estimated amount of debris that would be sent to the landfill. The intent of Chapter 8.54 is to divert at least 50 percent of all debris waste from most construction, demolition, and renovation projects away from local landfills.

Based on standards for new construction established by the State and the Bay Area Air Quality Management District (BAAQMD), and adherence to the development standards in the Municipal Code, activities associated with implementation of the General Plan 2040 would not result in wasteful, inefficient, or unnecessary consumption of energy. Therefore, implementation of the General Plan 2040 will have a ***less-than-significant*** impact under this criterion.

Operational Energy Usage

Implementation of the General Plan 2040 may result in development of up to approximately 916 residential units, although there would also be a reduction of approximately 129,682 square feet of non-residential uses within the Planning Area. Operation of the potential new development in the Town would consume natural gas and electricity for building heating and power, lighting, and water conveyance, among other operational requirements. The electrical consumption and natural gas usage associated with the potential development have been calculated in the CalEEMod model, which found that the potential development would consume 4,983,490 kWh of electricity per year and 2,231,606 kilo-British Thermal Units (kBTUs) of natural gas per year.

The electricity and natural gas consumption rates are based on implementation of the General Plan 2040 policies, including Policy S-8, which requires application of green building principles in the design, construction, and operation of new Town and Town-sponsored facilities, and Policy S-9, which requires integration of energy efficiency, conservation, and other green building incentives into the zoning permit and building permit processes. In addition, the 2019 California Code of Regulations Title 24 Part 6 standards require all homes built in California to have zero-net-energy use, which is achieved through energy-efficiency measures as well required rooftop solar photovoltaic systems. The 2019 California Code of Regulation Title 24 Part 6 standards also apply to non-residential buildings and require a variety of energy efficiency measures to be implemented during construction of the structures that will reduce energy as usage as well as air emissions. It is anticipated that the

future development within the town will be designed and built to minimize electricity and natural gas usage.

The Vehicle Miles Traveled (VMT) created from implementation of the General Plan 2040 has been analyzed in Section 3.14, Transportation, which found that implementation of the Project would result in an approximately 21.2% increase in town-wide VMT, compared to a 23.9% increase in combined population. Therefore, the growth rate associated with the proposed General Plan 2040 is higher than the VMT increase associated with it. The addition of Project-generated VMT would result in an approximately 15.7% decrease in total VMT per capita by 2040 compared with the General Plan 2040 VMT year 2040 projections under the existing General Plan 2040. The reduction in VMT per capita will result in improvements to energy efficiency for transportation-related energy usage.

Due to the recent passage of the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule, which removed the waiver allowing California to set its own vehicle emissions standard, the State is now reliant on the EPA to set vehicle efficiency standards. As such, the most recent national miles per gallon rate of 22.3 miles per gallon for light-duty vehicles has been utilized from Bureau of Transportation Statistics, resulting in the estimated consumption of an additional 7,272 gallons of petroleum fuel per year with implementation of the General Plan 2040.[20] In September 2020, Governor Gavin Newsom issued Executive order N-79-20, which requires sales of all new passenger vehicles to be zero-emission by 2035 and additional measures to eliminate harmful emissions from the transportation sector, indicating that further reductions in vehicle emissions will be forthcoming through buildout of this General Plan 2040.

The Mobility Chapter of the General Plan 2040 contains several goals, policies and programs that assist in reducing VMT. For example, Policy M-65 supports and prioritize land uses and transportation provisions that help reduce VMT. Policy M-66 requires the Town to consider the effect of planned circulation improvements on VMT when updating the Town's capital improvement program. In addition, Policy M-67 require the Town to support car sharing and bicycle sharing opportunities in Downtown Tiburon. Therefore, potential new development that may occur from implementation of the General Plan 2040 would be designed and built to minimize transportation energy through the promotion of the use of alternative transportation modes.

In addition, all new development in the Town would be required to meet State energy efficiency regulations that include Title 24 Part 6 building energy efficiency standards that require new residential uses to meet a net zero energy use standard, that is met through installation of rooftop solar PV systems, enhanced insulation and energy-efficient appliances. The Title 24 Part 6 requirements also require nonresidential buildings to be designed for increased energy-efficiency standards. Other State energy-efficiency

[20] Bureau of Transportation Statistics. 2019. Table 4-23: Average Fuel Efficiency of U.S. Light Duty Vehicles. October 22. Website: https://www.bts.gov/content/average-fuel-efficiency-us-light-duty-vehicles. Accessed April 22, 2020.

regulations include SB 100 that requires 100 percent of retail sales of electricity to be generated from zero-carbon emission sources by 2045 and Executive Order N-79-20 that requires 100 percent of new passenger vehicles sold in California to be zero-emissions by 2035.

Based on compliance with the General Plan 2040 policies and programs, adherence to the development standards in the Municipal Code, and compliance with State regulations operations associated with implementation of the General Plan 2040 would not result in wasteful, inefficient, or unnecessary consumption of energy. These policies and programs would minimize demands for energy resources and ensure their efficient use. Furthermore, implementation of the General Plan 2040 continuation of land use designations and development of infill areas would not result in the wasteful, inefficient use, or unnecessary consumption of energy. Therefore, implementation of the General Plan 2040 will have a ***less-than-significant*** impact under this criterion.

Level of Significance before Mitigation

Less than Significant

Mitigation Measures

None Required

Impact 3.5-2 Implementation of the General Plan would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

Development envisioned by the General Plan 2040 could result in an incremental increase in new residential, industrial, and commercial uses. It should be noted that the General Plan 2040 does not authorize any new development and the projected development in the town is allowed under the existing 1995 General Plan. Potential new development that may occur from implementation of the General Plan 2040 would be required to comply with the General Plan 2040 policies and programs and adherence to the development standards within Article II, 13.4-10 in the Municipal Code. The General Plan 2040 policies and programs will result in greater energy efficiency requirements than what would occur without adoption of the General Plan 2040.

The Town adopted its CAP in September 2022, which addresses potential impacts related to climate change through the implementation of several energy efficiency measures that are listed in Section 3.5.2, Regulatory Setting. All future development from buildout of the General Plan 2040 would be required to implement all applicable energy-efficiency measures listed in the CAP. In addition, all future development would be required to adhere to the Municipal Code, which contains rules and regulations regarding energy efficiency. Article II, 13.4-10 of the Municipal Code (Energy Code) adopts the 2019 California Energy Code, Title 24, Part 6, and incorporates the code into the Municipal Code. Chapter 13E (Water Efficient Landscape) contains regulations to support water conservation. Chapter 13.17 (Recycling

and Diversion of Construction and Demolition (C&D) Waste) addresses construction and demolition reporting and diversion requirements for construction and demolition waste.

In addition, the programs and policies provided in the General Plan 2040 would not conflict with applicable State or regional plans for renewable energy or energy efficiency that include Plan Bay Area 2040, BAAQMD 2017 Clean Air Plan, 2007 State Alternative Fuels Plan, including Executive Order N-79-20 that requires 100 percent of new passenger vehicles sold in California to be zero-emissions by 2035, 2008 Energy Action Plan Update, 2011 Energy Efficiency Strategic Plan, and SB 100 that requires 100 percent of retail sales of electricity to be generated from zero-carbon emission sources by 2045. On the contrary, the programs and policies in the General Plan 2040 support State and regional plans for renewable energy and energy efficiency, such as Policy S-2, which requires the Town to accelerate the conversion to renewable energy sources, and Program S-g, which requires the Town to evaluate solar energy production and storage systems at all municipal buildings and facilities and plan for replacement of natural gas appliances and equipment, and to continue to purchase 100% renewable energy for Town buildings and facilities.

Development envisioned by the General Plan 2040 would not result in an incremental increase in new residential, industrial, and commercial uses over what is already allowed under the 1995 General Plan. In addition, compliance with the CAP policies, General Plan 2040 policies and programs, and adherence to the development standards in the Tiburon Municipal Code, would ensure that potential new development associated with implementation of the General Plan 2040 will not conflict with or obstruct State or local plans for renewable energy or energy efficiency. Therefore, implementation of the General Plan 2040 will have a ***less than significant impact*** under this criterion.

Level of Significance before Mitigation
Less than Significant

Mitigation Measures
None Required

Impact 3.5-3 **Development facilitated by the General Plan, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to energy resources.**

This analysis evaluates whether the impacts of the General Plan 2040, together with the impacts of cumulative development, could result in a cumulatively significant impact with respect to energy resources. This analysis then considers whether the incremental contribution of the impacts associated with the implementation of the General Plan 2040 would be significant. Both conditions must apply for a Project's cumulative effects to rise to the level of a significant impact.

The geographic context for this analysis includes the Planning Area, Marin City, Mill Valley, Sausalito, Belvedere, and other adjacent unincorporated areas. Past, present, and future development projects contribute to energy impacts. If the Project is determined to have a significant energy impact, it is concluded that the impact is a cumulative impact. All cumulative projects would be required to comply with Town ordinances and County policies that address energy conservation and energy efficiency, such as complying with the latest California Energy Code. Further, since MCE is the official electricity provider for the communities of Marin City, Mill Valley, Sausalito, Belvedere, and Unincorporated Marin County, cumulative projects would be automatically enrolled in MCE. Additional countywide program, such as those required by the Marin Countywide Plan, would combine to reduce the energy demand, water use, amount of materials and wood use, and carbon dioxide emissions of buildings. Accordingly, potential cumulative impacts would be ***less than significant.***

Level of Significance before Mitigation

Less than Significant

Mitigation Measures

None Required

3.6 GEOLOGY, SOILS, & SEISMICITY

3.6.1 PURPOSE

This section addresses potential physical environmental effects related to seismic hazards, underlying soil characteristics, slope stability, erosion, and paleontological resources within the Planning Area from implementation of the General Plan 2040 (Project). Future discretionary projects facilitated by the Project will be evaluated for project-specific impacts to geology and soils at the time they are proposed.

The Planning Area is defined as all lands within the Town limits and Tiburon Sphere of Influence (SOI), as well as the Highway 101 Tiburon Boulevard/East Blithedale Avenue interchange west of the northwestern SOI boundary and the open space land to the north of the northern SOI boundary on Ring Mountain.

Information in this section is based, in part, on statements, data, and figures provided by the following reference materials:

- Create Tiburon 2040: Existing Conditions Report; ("Existing Conditions Report") and
- Tiburon Municipal Code.

No comments were received during the NOP Comment period in regards to geologic and seismic hazards.

3.6.2 ENVIRONMENTAL SETTING

The following information is primarily sourced from the Existing Conditions Report Conservation Chapter. Supplemental information is provided with a citation.

Regional Geology

As discussed in the Existing Conditions Report Conservation Chapter, the Planning Area lies within Coast Range Geomorphic Provinces. The Coast Range is a northwest-trending mountain range (2,000 to 4,000, occasionally 6,000, feet elevation above sea level) and set of valleys. The ranges and valleys trend northwest, subparallel to the San Andreas Fault. Strata dip beneath alluvium of the Great Valley. To the west is the Pacific Ocean. The coastline is uplifted, terraced and wave-cut. The Coast Range is composed of thick Mesozoic and Cenozoic sedimentary strata. The northern and southern ranges are separated by a depression containing the San Francisco Bay. The northern Coast Ranges are dominated by irregular, knobby, landslide-topography of the Franciscan Complex. The eastern border is characterized by strike-ridges and valleys in Upper Mesozoic strata. In several areas, Franciscan rocks are overlain by volcanic cones and flows of the Quien Sabe, Sonoma, and

Clear Lake volcanic fields. The Coast Ranges are subparallel to the active San Andreas Fault. The San Andreas is more than 600 miles long, extending from Pt. Arena to the Gulf of California. West of the San Andreas is the Salinian Block, a granitic core extending from the southern extremity of the Coast Ranges to the north of the Farallon Islands.

Local Setting

Topography

The topography ranges in elevation from approximately sea level to approximately 790 feet above sea level. Hillside areas of the Planning Area have the highest elevation, while the marine and waterfront areas have the lowest elevation. Figure 3.6-1 shows the United States Geologic Survey (USGS) Tiburon Quadrangle Topographic view.

Tiburon consists of two general topographic zones: the lowland zone and the hillside zone. The lowland zone corresponds to estuarine and flatland soils, and the hillside zone includes steep slopes and rocky soils.

In the **Lowland Zone**, estuarine (coastal) areas are underlain by Bay Mud, which consists of unconsolidated silt and clay with abundant organic material, local peat, sand, and gravel lenses or discontinuous beds. Local deposits of artificial fill occur along the margins of San Francisco Bay and in filled channels. Old fill (generally placed before the 1950s) typically consisted of heterogeneous material. Engineering challenges associated with coastal areas include weak compressible soils and risk of liquefaction. The flatland areas of Tiburon are underlain by alluvial deposits, unconsolidated flood-plain deposits, sand, silt, gravel, and clay, irregularly interstratified.

In the **Hillside Zone**, the hillside areas of Tiburon consist primarily of tilted marine sedimentary and volcanic rocks that range in age from Paleocene to Pliocene. Hillside areas of the Planning Area contain steep slopes, weak bedrock, and local landslide deposits.

Soils

During the preparation of the Existing Conditions Report, a Custom Soil Survey was completed for the Planning Area using the Natural Resource Conservation Service (NRCS) Web Soil Survey program. The NRCS Soils Map is provided in Figure 3.6-2. Table 3.6-1 below identifies the type and range of soils found in the Planning Area. As shown in Table 3.6-1, the majority of soils within the Planning Area consist of clay soils and sandy loams. Below is a brief description of prominent soils within the Planning Area.

TABLE 3.6-1: PLANNING AREA SOILS (IN ACRES)

Fault Activity Rating	Town of Tiburon	SOI	Planning Area	Grand Total
Barnabe very gravelly loam, 30 to 50 percent slopes	141.02	0.00	0.00	141.02

Fault Activity Rating	Town of Tiburon	SOI	Planning Area	Grand Total
Gilroy-Typic Argixerolls-Bonnydoon, 30 to 50 percent slopes	68.66	0.00	0.00	68.66
Henneke stony clay loam, 15 to 50 percent slopes	422.38	59.57	196.05	678.00
Los Osos-Bonnydoon complex, 15 to 30 percent slopes	154.84	46.22	19.53	220.59
Los Osos-Bonnydoon complex, 30 to 50 percent slopes	637.49	122.26	100.52	860.27
Los Osos-Urban land-Bonnydoon complex, 15 to 30 percent slopes	8.94	60.25	3.31	72.50
Los Osos-Urban land-Bonnydoon complex, 30 to 50 percent slopes	196.45	0.00	0.16	196.61
Maymen-Maymen variant gravelly loams. 30 to 75 percent slopes	5.60	0.00	0.00	5.60
Montara clay loam, 15 to 30 percent slopes	14.57	0.00	0.00	14.57
Rock outcrop-Xerorthents complex, 50 to 75 percent slopes	31.17	0.00	0.00	31.17
Saurin-Bonnydoon complex, 30 to 50 percent slopes	20.58	0.00	0.00	20.58
Saurin-Urban land-Bonnydoon complex, 15 to 30 percent slopes	84.30	5.09	0.00	89.39
Saurin-Urban land-Bonnydoon complex, 30 to 50 percent slopes	0.00	0.00	0.03	0.03
Tamalpais-Barnabe variant very gravelly loams, 30 to 50 percent slopes	43.83	0.00	0.00	43.83
Tocaloma-McMullin complex, 50 to 75 percent slopes	663.01	388.80	0.00	1,051.81
Tocaloma-McMullin-Urban land complex, 30 to 50 percent slopes	2.62	0.00	0.00	2.62
Tocaloma-Saurin association, very steep	91.62	37.28	0.00	128.90
Urban land-Xerorthents complex, 0 to 9 percent slopes	22.02	0.00	0.00	22.02
Water	6,903.61	161.07	0.00	7,064.68
Xerorthents, fill	92.91	0.00	0.00	92.91
Xerorthents-Urban land complex	160.33	66.33	29.36	256.02
Total	**9,765.95**	**946.87**	**348.95**	**11,061.78**

SOURCE: De Novo Planning Group, 2022. Existing Conditions Report.

The **Barnabe** series consists of shallow, well drained soils that formed in material from sandstone and shale. Runoff varies from medium to very rapid, and permeability is moderate. These soils are located mostly in the southern portion of Angel Island.

The **Gilroy** series consists of moderately deep, well drained soils that formed in material weathered from basic igneous and metamorphic rocks. Runoff varies from medium to rapid, and permeability is moderately slow. These soils are located on Angel Island.

The **Henneke** series consists of shallow, well drained soils that formed in material weathered from ultramaficserpentinite rocks. Runoff varies from medium to very high, and permeability is moderately slow and slow. These soils are primarily located through the center of Tiburon.

The **Los Osos** series consists of moderately deep, well drained soils that formed in material weathered from sandstone and shale. Runoff is considered very high and permeability is slow. These soils are primarily located through the western and center portions of Tiburon.

The **Maymen** series consists of shallow, somewhat excessively drained soils that formed in residuum weathered from shale, schist, greenstone, sandstone and conglomerate. Runoff is high to very high runoff; moderate to moderately rapid permeability. A small portion of this soil is located on the central portion of Angel Island.

The **Montara** series consists of shallow well drained soils that formed in material weathered from serpentinitic rocks. Runoff is medium and high, and permeability is moderately slow. Seep areas adjacent to rock outcrops may persist for several months after the end of the rainy season. A small portion of this soil is located on southwestern side of Angel Island.

The **Novato** series consists of very deep, very poorly drained soils that formed in alluvium deposited along the margin of bays. Soil is very poorly drained and has a low saturated hydraulic conductivity. Water table fluctuates with the tides from 0.5 meter above the surface during very high tides to a depth of 0.5 meter during low tides. These soils are primarily located along the southern shore of the Tiburon Peninsula.

The **Saurin** series consists of moderately deep, well drained soils that formed in material weathered from sandstone and shale. Runoff is slow to very rapid, and permeability is moderate. This soil is primarily located along the northern and southeastern shore of mainland Tiburon.

The **Bonnydoon** series consists of shallow, somewhat excessively drained soils that formed in material weathered from sandstone and shale. Runoff is medium to very rapid, and permeability is moderate. This soil is primarily located along the northern shore of mainland Tiburon.

The **Tamalpais** series consists of moderately deep, well drained soils that formed in material weathered from igneous rock and sandstone. Runoff is rapid to very rapid and permeability is slow. This soil is primarily located at the southern portion of mainland Tiburon.

The **Tocaloma** series consists of moderately deep, well drained soils that formed in material weathered from sandstone and shale. Runoff is slow to very rapid and permeability is moderately rapid. This soil is primarily found at the northeastern corner of mainland Tiburon and along the coast of Angel Island.

Faulting & Seismicity

Faults

A fault is a fracture in the crust of the earth along which rocks on one side have moved relative to those on the other side. A fault trace is the line on the earth's surface defining the fault. Displacement of the earth's crust along faults releases energy in the form of earthquakes and in some cases in fault creep. Most faults are the result of repeated displacements over a long period of time.

Surface rupture occurs when movement on a fault deep within the earth breaks through to the surface. Surface ruptures have been known to extend up to 50 miles with displacements of an inch to 20 feet. Fault rupture almost always follows preexisting faults, which are zones of weakness. Rupture may occur suddenly during an earthquake or slowly in the form of fault creep. Sudden displacements are more damaging to structures because they are accompanied by shaking.

The State designates faults as active, potentially active, and inactive depending on how recent the movement that can be substantiated for a fault. Table 3.6-2 presents the California fault activity rating system.

TABLE 3.6-2: FAULT ACTIVITY RATING

Fault Activity Rating	Geologic Period of last Rupture	Time Interval (years)
Active (A)	Holocene	Within last 11,000 years
Potentially Active (PA)	Quaternary	11,000-1.6 Million Years
Inactive (I)	Pre-Quaternary	Greater than 1.6 Million
SOURCE: De Novo Planning Group, 2022. Existing Conditions Report.		

As established in the Existing Conditions Report, the closest faults to the Planning Area include the Hayward Fault Zone located approximately 7 miles to the east of the Planning Area, the Morgana Fault located approximately 9 miles east of the Planning Area, and the San Andreas Fault Zone located approximately 9 miles west of the Planning Area. Figure 3.6-3 provides a map of known area faults.

Seismicity

Earthquakes are generally expressed in terms of intensity and magnitude. Intensity is based on the observed effects of ground shaking on people, buildings, and natural features. By comparison, magnitude is based on the amplitude of the earthquake waves recorded on instruments, which have a common calibration. The Richter scale, a logarithmic scale ranging from 0.1 to 9.0, with 9.0 being the strongest, measures the magnitude of an earthquake relative to ground shaking. Table 3.6-3 provides a description and a comparison of intensity and magnitude.

TABLE 3.6-3: RITCHER MAGNITUDES AND EFFECTS

Magnitude	Effects
< 3.5	Typically not felt
3.5 – 5.4	Often felt but damage is rare
5.5 – < 6	Damage is slight for well-built buildings
6.1 – 6.9	Destructive potential over ±60 miles of occupied area
7.0 – 7.9	"Major Earthquake" with the ability to cause damage over larger areas
≥ 8	"Great Earthquake" can cause damage over several hundred miles
SOURCE: De Novo Planning Group, 2022. Existing Conditions Report.	

In 2014, the United States Geological Survey (USGS) updated the 30-year earthquake forecast for California, which concluded that there is a 72 percent probability of at least one earthquake of magnitude 6.7 or greater striking somewhere in the San Francisco Bay region before 2043. The 72 percent probability of a magnitude 6.7 or greater earthquake includes the well-known major plate-boundary faults, lesser-known faults, and unknown faults. As shown in Table 3.6-3, an earthquake at this magnitude is capable of causing widespread damage to over ±60 miles of occupied area.

The Modified Mercalli intensity scale for earthquakes is summarized in Table 3.6-4.

TABLE 3.6-4: MODIFIED MERCALLI INTENSITY SCALE FOR EARTHQUAKES

Richter Magnitude	Modified Mercalli	Effects of Intensity
0.1 – 0.9	I	Earthquake shaking not felt
1.0 – 2.9	II	Shaking felt by those at rest.
3.0 – 3.9	III	Felt by most people indoors, some can estimate duration of shaking.
4.0 – 4.5	IV	Felt by most people indoors. Hanging objects rattle, wooden walls and frames creak.
4.6 – 4.9	V	Felt by everyone indoors, many can estimate duration of shaking. Standing autos rock. Crockery clashes, dishes rattle and glasses clink. Doors open, close and swing.
5.0 – 5.5	VI	Felt by all who estimate duration of shaking. Sleepers awaken, liquids spill, objects are displaced, and weak materials crack.
5.6 – 6.4	VII	People frightened and walls unsteady. Pictures and books thrown, dishes and glass are broken. Weak chimneys break. Plaster, loose bricks and parapets fall.
6.5 – 6.9	VIII	Difficult to stand. Waves on ponds, cohesionless soils slump. Stucco and masonry walls fall. Chimneys, stacks, towers, and elevated tanks twist and fall.
7.0 – 7.4	IX	General fright as people are thrown down, hard to drive. Trees broken, damage to foundations and frames. Reservoirs damaged, underground pipes broken.
7.5 – 7.9	X	General panic. Ground cracks, masonry and frame buildings destroyed. Bridges destroyed and railroads bent slightly. Dams, dikes and embankments damaged.
8.0 – 8.4	XI	Large landslides, water thrown, general destruction of buildings. Pipelines destroyed and railroads bent.
8.5 +	XII	Total nearby damage, rock masses displaced. Lines of sight/level distorted. Objects thrown into air.
SOURCE: De Novo Planning Group, 2022. Existing Conditions Report.		

The Significant United States Earthquake data published by the USGS in the National Atlas identifies earthquakes that caused deaths, property damage, and geologic effects or were felt by populations near the epicenter. No significant earthquakes have been identified within the Planning Area; however, significant earthquakes are documented in the region. The following table presents the significant earthquakes in the region.

TABLE 3.6-5: SIGNIFICANT EARTHQUAKES IN THE REGION

Magnitude	Intensity	Location	Year
4.1	IV	9 miles south east of Alum Rock	2017
4.0	IV	Piedmont	2015
4.1	IV	6 miles east of Yountville	2015
4.0	IV	2 miles north of Fremont	2015
6.0	VIII	South Napa	2014
5.6	VI	San Jose	2007
5.0	VII	Napa	2000
6.9	IX	Loma Prieta (San Andreas)	1989
5.4	N/A	Santa Cruz County	1989
6.2	N/A	Morgan Hill	1984
5.8, 5.8	VII	Livermore	1980
5.7	N/A	Coyote Lake	1979
5.7, 5.6	N/A	Santa Rosa	1969
5.3, 4.2	N/A	Daly City	1957
5.4	N/A	Concord	1954
6.5	N/A	Calaveras fault	1911
7.9	IX	San Francisco	1906
6.8	N/A	Mendocino	1898
6.2	N/A	Mare Island	1898
6.3	N/A	Calaveras fault	1893
6.2	VIII	Winters	1892
6.4	N/A	Vacaville	1892
6.8	VII	Hayward	1868
6.5	VIII	Santa Cruz Mountains	1865
6.8	N/A	San Francisco Peninsula	1838

SOURCE: De Novo Planning Group, 2022. Existing Conditions Report.

Alquist-Priolo Special Study Zone

The California legislature passed the Alquist-Priolo Special Studies Zone Act in 1972 to address seismic hazards associated with faults and to establish criteria for developments for areas with identified seismic hazard zones. The California Geologic Survey (CGS) evaluates faults with available geologic and seismologic data and determines if a fault should be zoned

as active, potentially active, or inactive. If CGS determines a fault to be active, then it is typically incorporated into a Special Studies Zone in accordance with the Alquist-Priolo Earthquake Hazard Act. Alquist-Priolo Special Study Zones are usually one-quarter mile or less in width and require site-specific evaluation of fault location and require a structure setback if the fault is found traversing a project site. The Planning Area is not within an Alquist-Priolo Special Study Zone. The nearest Alquist-Priolo fault zones are the Hayward Fault Zone and the San Andreas Fault Zone, as shown on Figure 3.6-3. The Hayward Fault Zone is located approximately 7 miles east of Tiburon and the San Andreas Fault Zone is located approximately 9 miles west of Tiburon.

Seismic Hazards

Earthquake hazards can be categorized as primary hazards, which include fault rupture, ground shaking, or secondary hazards, which include liquefaction, seismically induced landslides, subsidence, and seismically induced water inundation. Both hazard categories can result in extensive property damage, personal injury, and/or death. Seismically induced water inundation is described in Section 3.9, Hydrology and Water Quality.

Seismic Ground Shaking

The potential for seismic ground shaking in California is expected. As a result of the foreseeable seismicity in California, the State requires special design considerations for all structural improvements in accordance with the seismic design provisions in the California Building Code. These seismic design provisions require enhanced structural integrity based on several risk parameters.

Fault Rupture

A fault rupture occurs when the surface of the earth breaks as a result of an earthquake, although this does not happen with all earthquakes. These ruptures generally occur in a weak area of an existing fault. Ruptures can be sudden (i.e., earthquake) or slow (i.e. fault creep). The Alquist-Priolo Fault Zoning Act requires active earthquake fault zones to be mapped and it provides special development considerations within these zones. Tiburon does not have surface expression of active faults and fault rupture is not anticipated. Figure 3.6-3 shown regional faults in relation to Tiburon.

Ground Failure

Ground failure is a secondary effect of earthquake shaking that can be potentially dangerous and damaging. Ground failure effects include landslides, rock falls, subsidence, liquefaction, and ground lurching in areas not actually ruptured by a fault. These activities involve ground surface displacement due to loss of strength or failure of underlying materials during earthquake shaking. Moisture content and groundwater levels are important in assessment of ground failure potential, as are soil type and slope instability.

Subsidence/Liquefaction

Liquefaction typically requires a significant sudden decrease of shearing resistance in cohesionless soils and a sudden increase in water pressure, which is typically associated with an earthquake of high magnitude. The potential for liquefaction is highest when groundwater levels are high, and loose, fine, sandy soils occur at depths of less than 50 feet. Figure 3.6-4 provides a map of the liquefaction potential of the soils within the Planning Area and general vicinity. As shown in the Figure, portions of Tiburon could be subject to liquefaction during or after an earthquake. The locations in the Town which are prone to liquefaction are located in the hillside areas and the marina and waterfront.

Lateral Spreading

Lateral spreading typically results when ground shaking moves soil toward an area where the soil integrity is weak or unsupported, and it typically occurs on the surface of a slope, although it does not occur strictly on steep slopes. Oftentimes, lateral spreading is directly associated with areas of liquefaction. The potential for liquefaction exists in the hillside and waterfront areas; lateral spreading of soils may occur in these areas of the Planning Area.

Landslide and Slope Instability

Landslides include rockfalls, deep slope failure, and shallow slope failure. Factors such as the geological conditions, drainage, slope, vegetation, and others directly affect the potential for landslides. Common causes of landslides include heavy rainfall events and construction activity that is associated with road building (i.e., cut and fill). The potential for landslides is moderate to high in the hillside areas of the Planning Area. Figure 3.6-5 shows Landslide Vulnerability within the Planning Area. As indicated on Figure 3.6-5, the majority of the Planning Area has a low vulnerability index with a few landslides. Surficial deposits, or areas not vulnerable to landslide are located on the coast on all sides of the Planning Area. The areas with the highest landslide vulnerability are located inland to the northwestern portions of the Planning Area, particularly on the slopes of high elevations.

As discussed in the Existing Conditions Report, the Susceptibility to Deep-Seated Landslides map covers the entire State of California and was originally published in May of 2011 as CGS Map Sheet 58. It made use of several data layers of varying scales and formats, such as landslide inventory, geology, rock strength, and slope and identifies classes of landscape susceptibility on a scale of 0 (low) to 10 (high) that reflects the generalization that on very low slopes, landslide susceptibility is low even in weak materials, and that landslide susceptibility increases with slope and in weak rocks. The landslide susceptibility matrix, based on rock strength and slope steepness in degrees, is described in Table 3.6-6. Landslide susceptibility zones in the Planning Area range from class 0 to 10, as shown on Figure 3.6-5. Areas with highest landslide susceptibility (classes 9 and 10) are located inland to the northwestern portions of the Planning Area, particularly on the slopes of high elevations. Other areas with moderate to high susceptibility (classes 6 through 8) are located throughout the majority of the Planning Area, particularly on the hills on the north and south side of the Tiburon Peninsula and Angel Island.

TABLE 3.6-6: LANSLIDE SUSCEPTIBILITY MATRIX

Landslide Susceptibility Class	Rock Strength	Slope Steepness
0 (0)	1	<3 to 10
	2	<3
	3	<3
3 (III)	1	10 to15
5 (V)	2	3 to10
6 (VI)	1	15 to 20
7 (VII)	1	20 to 30
	3	3 to 10
8 (VIII)	1	30 to >40
	2	10 to 15
9 (IX)	2	15 to >40
	3	10 to 15
10 (X)	3	15 to >40
SOURCE: De Novo Planning Group, 2022. Existing Conditions Report.		

Non-Seismic Hazards

Expansive Soils

Expansive soils can undergo significant volume change with changes in moisture content. They shrink and harden when dried and expand and soften when wet. If structures are underlain by expansive soils, it is important that foundation systems be capable of tolerating or resisting any potentially damaging soil movements. In addition, it is important to limit moisture changes in the surficial soils by using positive drainage away from buildings as well as limiting landscaping watering.

According to the NRCS Web Soil Survey, the soils in the Planning Area soils vary from a low shrink-swell potential to a high shrink-swell potential as shown in Figure 3.6-6, Expansive Soil Potential. Portions of the Planning Area with a high expansive soil potential are located in the foothill areas and along the coast of the western Planning Area. The eastern portions of the Planning Area, particularly Angel Island and the western portion of the Tiburon Peninsula, have a low to moderate expansive soil potential with a moderate potential typically with the areas of higher elevation.

Erosion

Erosion naturally occurs on the surface of the earth as surface materials (i.e., rock, soil, debris, etc.) are loosened, dissolved, or worn away, and transported from one place to another by gravity. Two common types of soil erosion include wind erosion and water erosion. The steepness of a slope is an important factor that affects soil erosion. Erosion potential in soils is influenced primarily by loose soil texture and steep slopes. Loose soils can be eroded by water or wind forces, whereas soils with high clay content are generally

susceptible only to water erosion. The potential for erosion generally increases as a result of human activity, primarily through the development of facilities and impervious surfaces and the removal of vegetative cover.

The Custom Soils Report, prepared for the Existing Conditions Report, identified the erosion potential for the soils in the Planning Area. Soil property data for each map unit component includes the hydrologic soil group, erosion factors (Kf) for the surface horizon, erosion factor (T), and the representative percentage of sand, silt, and clay in the surface horizon.

Erosion factor (K) indicates the susceptibility of a soil to sheet and rill erosion by water. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water. Within the Planning Area, the erosion factor (Kf) varies from 0.20 to 0.43, which is considered a low to moderate potential for erosion. The wind erosion potential ranges from moderate-to-high during the spring, summer, and fall, however this potential for wind erosion diminish during the winter.

Collapsible Soils

Collapsible soils undergo a rearrangement of their grains and a loss of cementation, resulting in substantial and rapid settlement under relatively low loads. Collapsible soils occur predominantly at the base of mountain ranges, where Holocene-age alluvial fan and wash sediments have been deposited during rapid run-off events. Soils prone to collapse are commonly associated with manmade fill, wind-laid sands and silts, and alluvial fan and mudflow sediments deposited during flash floods. During an earthquake, even slight settlement of fill materials can lead to a differentially settled structure and significant repair costs. Differential settlement of structures typically occurs when heavily irrigated landscape areas are near a building foundation. Collapsible soils have not been identified in the Planning Area as an issue. However, in areas subject to potential liquefaction, the potential for liquefaction-induced settlement is present.

Subsidence

Land subsidence is the gradual settling or sinking of an area with little or no horizontal motion due to changes taking place underground. It is a natural process, although it can also occur (and is greatly accelerated) as a result of human activities. Common causes of land subsidence from human activity include: pumping water, oil, and gas from underground reservoirs; dissolution of limestone aquifers (sinkholes); collapse of underground mines; drainage of organic soils; and initial wetting of dry soils. Subsidence has not been identified as an issue in the Planning Area.

Naturally Occurring Asbestos

The term “asbestos” is used to describe a variety of fibrous minerals that, when airborne, can result in serious human health effects. Naturally occurring asbestos is commonly associated with ultramafic rocks and serpentinite. As they are intrusive in nature, these rocks often undergo metamorphosis, prior to their being exposed on the Earth’s surface. The

metamorphic rock serpentinite is a common product of the alteration process. Naturally occurring asbestos is identified within Marin County. There is no naturally occurring asbestos mapped within the Planning Area.

Paleontological Resources

Among the natural resources deserving conservation and preservation are the often-unseen records of past life buried in the sediments and rocks below the pavement, buildings, soils, and vegetation which now cover most of the area. These records – fossils and their geologic context – undoubtedly exist below the surface in areas in and near Tiburon, and span millions of years in age of origin. Fossils constitute a non-renewable resource: once lost or destroyed, the exact information they contained can never be reproduced.

The sensitivity of a given area or body of sediment with respect to paleontological resources is a function of both the potential for the existence of fossils and the predicted significance of any fossils which may be found there. The primary consideration in the determination of paleontological sensitivity of a given area, body of sediment, or rock formation is its potential to include fossils. Information that can contribute to assessment of this potential includes: 1) direct observation of fossils within the project area; 2) the existence of known fossil localities or documented absence of fossils in the same geologic unit (e.g., "Formation" or one of its subunits); 3) descriptive nature of sedimentary deposits (such as size of included particles or clasts, color, and bedding type) in the area of interest compared with those of similar deposits known elsewhere to favor or disfavor inclusion of fossils; and 4) interpretation of sediment details and known geologic history of the sedimentary body of interest in terms of the ancient environments in which they were deposited, followed by assessment of the favorability of those environments for the preservation of fossils.

The most general paleontological information can be obtained from geologic maps, but geologic cross sections (slices of the layer cake to view the third dimension) must be reviewed for each area in question. These usually accompany geologic maps or technical reports. Once it can be determined which formations may be present in the subsurface, the question of paleontological resources must be addressed. Even though a formation is known to contain fossils, they are not usually distributed uniformly throughout the many square miles the formation may cover. Other resources to be considered in the determination of paleontological potential are regional geologic reports, site records on file with paleontological repositories and site-specific field surveys.

Paleontologists consider all vertebrate fossils to be of significance. Fossils of other types are considered significant if they represent a new record, new species, an oldest occurring species, the most complete specimen of its kind, a rare species worldwide, or a species helpful in the dating of formations. However, even a previously designated low potential site may yield significant fossils. No paleontological resources have been identified in the Planning Area.

3.6.3 REGULATORY SETTING

Federal

Earthquake Hazards Reduction Act

Congress passed the Earthquake Hazards Reduction Act in 1977 to reduce risks to life and property from future earthquakes in the United States through establishment and maintenance of an effective earthquake hazards reduction program. To accomplish this goal, the Act established the National Earthquake Hazards Reduction Program. This program was substantially amended in November 1990 by the National Earthquake Hazards Reduction Program Act, which refined the description of agency responsibilities, program goals, and objectives.

Paleontological Resources Preservation Act

The 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 would remain accessible to the public and other researchers.

State

The State has established a variety of regulations and requirements related to seismic safety and structural integrity, including the California Building Standards Code, the Alquist-Priolo Earthquake Fault Zoning Act, and the Seismic Hazards Mapping Act.

California Building Standards Code

Title 24 of the California Code of Regulations, known as the California Building Standards Code (CBSC) or simply "Title 24," contains the regulations that govern the construction of buildings in California. The CBSC includes 12 parts: California Building Standards Administrative Code, California Building Code, California Residential Building Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Historical Building Code, California Fire Code, California Existing Building Code, California Green Building Standards Code (CALGreen Code), and the California Reference Standards Code. Through the CBSC, the State provides a minimum standard for building design and construction. The CBSC contains specific requirements for seismic safety, excavation, foundations, retaining walls, and site demolition. It also regulates grading activities, including drainage and erosion control.

The California Building Code, Title 24, Part 2, Chapter 16 addresses structural design, Chapter 17 addresses structural tests and special inspections, and Chapter 18 addresses soils and

foundations. Section 1610 provides structural design standards for foundation walls and retaining walls to ensure resistance to lateral soil loads. Section 1613 provides structural design standards for earthquake loads. Section 1704.7 requires special inspections for existing site soil conditions, fill placement and load-bearing requirements during the construction as specified in Table 1704.7 of this section. Sections 1704.8 through 1704.16 provide inspection and testing requirements for various foundation types, and construction material types. Section 1803.1.1.1 requires each city and county enact an ordinance which requires a preliminary soil report and that the report be based upon adequate test borings or excavations, of every subdivision, where a tentative and final map is required pursuant to Section 66426 of the Government Code. Section 1803.5.3 defines expansive soils and specifies that in areas likely to have expansive soil, the building official shall require soil tests to determine where such soils do exist. Section 1803.5.4 specifies that a subsurface soil investigation must be performed to determine whether the existing ground-water table is above or within 5 feet (1524 mm) below the elevation of the lowest floor level where such floor is located below the finished ground level adjacent to the foundation. Section 1803.5.8 provides specific standards where shallow foundations will bear on compacted fill material more than 12 inches (305 mm) in depth. Sections 1803.5.11 and 1803.5.12 provide requirements for geotechnical investigations for structures assigned varying Seismic Design Categories in accordance with Section 1613. Section 1804 provides standards and requirements for excavation, grading, and fill. Sections 1808, 1809, and 1810 provide standards and requirements for the construction of varying foundations.

State Laws Pertaining to Paleontological Resources

Several sections of the California Public Resources Code protect paleontological resources.

Section 5097.5 prohibits "knowing and willful" excavation, removal, destruction, injury, and defacement of any "vertebrate paleontological site, including fossilized footprints," on public lands, except where the agency with jurisdiction has granted express permission. "As used in this section, 'public lands' means lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof."

California Public Resources Code, Section 30244 requires reasonable mitigation for impacts on paleontological resources that occur as a result of development on public lands.

The sections of the California Administrative Code relating to the State Division of Beaches and Parks afford protection to geologic features and "paleontological materials" but grant the director of the State park system authority to issue permits for specific activities that may result in damage to such resources, if the activities are in the interest of the State park system and for State park purposes (California Administrative Code, Title 14, Section 4307 – 4309).

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 sets forth the policies and criteria of the State Mining and Geology Board, which governs the exercise of governments'

responsibilities to prohibit the location of developments and structures for human occupancy across the trace of active faults. The policies and criteria are limited to potential hazards resulting from surface faulting or fault creep within Earthquake Fault Zones, as delineated on maps officially issued by the State Geologist. Working definitions include:

- Fault – a fracture or zone of closely associated fractures along which rocks on one side have been displaced with respect to those on the other side;
- Fault Zone – a zone of related faults, which commonly are braided and sub parallel, but may be branching and divergent. A fault zone has a significant width (with respect to the scale at which the fault is being considered, portrayed, or investigated), ranging from a few feet to several miles;
- Sufficiently Active Fault – a fault that has evidence of Holocene surface displacement along one or more of its segments or branches (last 11,000 years); and
- Well-Defined Fault – a fault whose trace is clearly detectable by a trained geologist as a physical feature at or just below the ground surface. The geologist should be able to locate the fault in the field with sufficient precision and confidence to indicate that the required site-specific investigations would meet with some success.

"Sufficiently Active" and "Well Defined" are the two criteria used by the State to determine if a fault should be zoned under the Alquist-Priolo Act.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act, passed in 1990, addresses non-surface fault rupture earthquake hazards, including liquefaction and seismically-induced landslides. Under the Act, seismic hazard zones are to be mapped by the State Geologist to assist local governments in land use planning. The program and actions mandated by the Seismic Hazards Mapping Act closely resemble those of the Alquist-Priolo Earthquake Fault Zoning Act (which addresses only surface fault-rupture hazards) and are outlined below:

The State Geologist is required to delineate the various "seismic hazard zones."

- Cities and counties, or other local permitting authority, must regulate certain development "projects" within the zones. They must withhold the development permits for a site within a zone until the geologic and soil conditions of the site are investigated and appropriate mitigation measures, if any, are incorporated into development plans.
- The State Mining and Geology Board provides additional regulations, policies, and criteria, to guide cities and counties in their implementation of the law. The Board also provides guidelines for preparation of the Seismic Hazard Zone Maps and for evaluating and mitigating seismic hazards.
- Sellers (and their agents) of real property within a mapped hazard zone must disclose that the property lies within such a zone at the time of sale.

Caltrans Seismic Design Criteria

The California Department of Transportation (Caltrans) has Seismic Design Criteria (SDC), which is an encyclopedia of new and currently practiced seismic design and analysis methodologies for the design of new bridges in California. The SDC adopts a performance-based approach specifying minimum levels of structural system performance, component performance, analysis, and design practices for ordinary standard bridges. The SDC has been developed with input from the Caltrans Offices of Structure Design, Earthquake Engineering and Design Support, and Materials and Foundations. Memo 20-1 outlines the bridge category and classification, seismic performance criteria, seismic design philosophy and approach, seismic demands and capacities on structural components and seismic design practices that collectively make up Caltrans' seismic design methodology.

Regional & Local

Town of Tiburon General Plan 2020

General Plan 2020 includes a discussion on geologic and seismic hazards. The Safety Chapter considers manmade and natural hazards, and includes policies aimed at reducing potential geotechnical hazards, unstable slops, and flood-prone areas. The Land Use Chapter establishes development patterns and guidelines. Land Use development guidelines and regulations are founded on public and personal safety, and aim to allow the Town to grow in a safe and cohesive manner.

Tiburon Municipal Code

Municipal Code Chapter 13, Building Regulations, codifies the California Building Standards technical codes (CBSC) including: the California Building Code (Section 13-4.1), Residential Code (13-4.2), Plumbing Code (13-4.3), Electrical Code (13-4.4), Fire Code (13-4.5), Housing Code (13-4.6) and Dangerous Buildings Code (13-4.8). Specifically, through Section 13-4.1, the Town has adopted the 2022 California Building Standards Code and subsequent amendments established in Subsection 13-4.1.1.

Chapter 13C, Individual and Alternative Sewage Disposal Systems, under Title IV, Land Improvement and Use, establishes alternative waste system standards and regulations, adopts the Marin County individual sewage disposal system ordinance, and, adopts the Marin County alternative sewage disposal system ordinance.

The Municipal Code incorporates Chapter 13D, Flood Damage Prevention, to promote the public health, safety and general welfare, and to minimize public and private losses to flood conditions in specific areas. This Chapter then provides methods and provisions to reduce flood loss. This Chapter requires a development permit to be obtained before construction or development begins within any area of special flood hazards.

Chapter 16, Zoning, contains Chapter 16.52, Permit Review and Decisions, which provides procedures for the final review and approval or denial of the zoning permit applications and

other review requirements. The provisions of Chapter 16.52 apply to all: site plan and architectural reviews; variances; conditional use permits; condominium use permits; precise development plans; conceptual master plans; and tidelands permits.

Chapter 20A, Urban Runoff Pollution Prevention, is included to ensure the future health, safety and general welfare of the citizens of the Town of Tiburon and, to protect and enhance watercourses, fish and wildlife habitat.

3.6.4 THRESHOLDS OF SIGNIFICANCE

According to the California Environmental Quality Act (CEQA) Guidelines Appendix G, the Project would have a significant impact related to geology, soils, and/or seismicity if it would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zone Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; Refer to Division of Mines and Geology Special Publication 42;
ii. Strong seismic ground shaking;
iii. Seismic-related ground failure, including liquefaction; or
iv. Landslides.

In addition, the Project would have a significant impact related to geology, soils, or paleontological resources if it would:

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

3.6.5 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

Impacts related to geology, soils, and paleontological resources resulting from implementation of the Project are discussed below. The following impact analysis is based

on information from the Environmental Setting and Regulatory Setting. Supplemental information is provided with a citation.

Impact 3.6-1 **Development facilitated by the Project would not directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death from rupture of an earthquake fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides.**

The California legislature passed the Alquist-Priolo Special Studies Zone Act in 1972 to address seismic hazards associated with faults and to establish criteria for developments for areas with identified seismic hazard zones. The Planning Area is not within an Alquist-Priolo Special Study Zone. The nearest Alquist-Priolo fault zones are the Hayward Fault Zone (7 miles east) and the San Andreas Fault Zone (9 miles west), as shown on Figure 3.6-3.

Given the City's proximity to the Hayward and San Andreas Fault Zones, as well as other active faults, it is likely that the greater Tiburon region will experience periodic minor to strong earthquake motion. Within the Planning Area, hazards may include liquefaction, seismically induced landslides, and subsidence; hazards are dispersed throughout the Town. The intensity of seismic ground shaking within the Planning Area would depend upon characteristics of the generating fault, distance to the earthquake epicenter and rupture zone, the magnitude and duration of the earthquake, and site-specific geologic conditions.

The General Plan 2040 would enable development of new residential and non-residential uses; the General Plan proposes an increase of 916 residential units and a reduction of approximately 129,682 square feet of non-residential uses by 2040 buildout conditions. As such, additional residents could be potentially exposed to the effects of fault rupture, seismic ground shaking, liquefaction, subsidence, and landslides from local and regional earthquakes. Structures that would be built on steep slopes could be exposed to an existing risk of landslide or, if improperly constructed, could exacerbate existing landslide conditions.

However, the General Plan 2040 includes policies and programs that require applicants to provide sufficient geotechnical data and reports to demonstrate that any site-specific conditions can be appropriately addressed through site preparation and construction techniques. To mitigate potential dangers of earthquake damage, the General Plan 2040 includes General Plan Safety and Resilience Chapter Policy SR-5, Seismic and Geologic Hazards, Policy SR-6, Development in Areas with Geologic Hazards, and Policy SR-7, Hazard Reduction. Safety and Resilience Policy SR-6 assures that development allowed within areas of potential geologic hazard is neither endangered by, nor contributes to, the hazardous conditions on the site or on surrounding properties. Program SR-j, Building Code Compliance, requires new development and infrastructure projects to conform to seismic requirements of the California Building Code (CBC) and, when applicable, incorporate mitigation required by CEQA. Program SR-k, Geotechnical Analysis, requires preparation of a report by a qualified engineer for new development proposals to determine the extent of

geotechnical hazards, specify adequate repair/improvement techniques, describe optimum design for structures and improvements, and set forth any special requirements for the sites. Program SR-l, Landslide Mitigation Policy, require that new development in areas subject to land sliding comply with the Town's Landslide Mitigation Policy. Program SR-n, Seismic Improvement Program, creates and implements a Seismic Improvement Program that involves conducting a seismic risk assessment of existing Town infrastructure, which would then help to create a list which would prioritize the buildings and equipment that should be retrofitted.

Potential structural damage and exposure of people to risk of injury or death from structural failure would be further minimized by compliance with CBC engineering design and construction measures. Foundations and other structural support features would be designed to resist or absorb damaging forces from strong ground shaking, liquefaction, and subsidence according to Section 13.4-1 of the Municipal Code, which incorporates the most recent CBC. The Tiburon Building Inspection Department reviews plans and applications for site clearance, grading, and building permits to ensure compliance with Municipal Code Chapter 13. The Division imposes requirements for revisions where needed to ensure that new or significantly remodeled structures are constructed in compliance with the CBC, and reflects any additional measures deemed appropriate based on geotechnical analysis, such as would be required by General Plan 2040 Program SR-k. Permit issuance would be based upon satisfactory completion of any identified applicable measures.

In conclusion, compliance with mandatory CBC requirements and adherence of the General Plan 2040 policies and programs would ensure that future development projects are appropriately investigated in terms of potential seismic hazards and that any new buildings and structures are constructed to withstand the anticipated range of seismic events. At the programmatic level, seismic impacts would be reduced to a less-than-significant level. Consistent with General Plan 2040 policies, future development projects would be required to undergo project-specific environmental review, which may require additional site-specific or project-specific measures to reduce any potential for loss, injury, or death in the event of a seismic event. As such, potential impacts would be reduced to ***less-than-significant*** levels.

Mitigation Measures

None Required

Impact 3.6-2 Development facilitated by the Project would not result in substantial soil erosion or the loss of topsoil.

As mentioned in Environmental Setting, the erosion factor varies from low to moderate potential throughout the Planning Area. The wind erosion potential ranges from moderate-to-high during the spring, summer, and fall, then diminishes during the winter. Construction activities could result in temporary disturbance of soil and would expose disturbed areas to

storm events. Rain of sufficient intensity and duration could dislodge soil particles, generate runoff, and cause localized erosion and sedimentation. As such, soil erosion is dependent on individual site locations and conditions on-site during construction.

The General Plan 2040 would enable development of new residential and non-residential uses. Subsequent development under the Project could potentially result in substantial soil erosion or loss of topsoil as future development would involve construction activities such as stockpiling, grading, excavation, paving, and other earth-disturbing activities.

To hinder potential adverse water erosion impacts, the Regional Water Quality Control Board (RWQCB) has issued the National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), which regulates stormwater discharges related to construction activities.[1] Projects disturbing one or more acres of soil, or whose projects disturb less than one acre but are part of a larger common plan of development that, in total, disturbs one or more acres, are required to obtain coverage under the Construction General Permit. Compliance with the permit requires each qualifying development project to file a Notice of Intent with the State Water Board. Permit conditions require development of a Stormwater Pollution Prevention Plan (SWPPP), which must describe the site, facility, erosion and sediment controls, runoff water quality monitoring, means of waste disposal, implementation of approved local plans, control of construction sediment and erosion control measures, maintenance responsibilities, and non-stormwater management controls.

The General Plan 2040 includes policies and programs to decrease soil erosion and stormwater runoff. General Plan Open Space Chapter Policies OS-9 through OS-18 all pertain to development standards for geographical areas in high-risk geologic hazards. With the aim of protecting natural features- ridgelines and hillsides- these policies establish setbacks, allowable land uses, and construction activity regulations. Preservation of natural features helps to prevent soil erosion and loss of topsoil. Further, Safety and Resilience Program SR-k, Geotechnical Analysis, requires preparation of a report by a geotechnical engineer for new development proposals to determine the extent of geotechnical hazards, specify adequate repair/improvement techniques, describe optimum design for structures and improvements, and set forth any special requirements for the sites. Safety and Resilience Policy SR-15, Mitigation of Storm Drainage Impacts, and its subsequent programs (Programs SR-cc, SR-dd, SR-ee, SR-ff, SR-gg, and SR-hh) aim to ensure new development mitigates storm drainage impacts and potential increases in runoff. Specifically, Program SR-gg, Analysis of Impacts on Drainageways, requires new development to prepare a hydraulic and geomorphic assessment of on-site and downstream drainageways that are affected by project area runoff. In the event existing channel instabilities are noted, the applicant may

[1] SWRCB (State Water Resources Control Board), 2012. National Pollutant Discharge Elimination System (NPDES), General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order 2012-006-DWQ NPDES # CA000002).

either propose their own channel stabilization program or defer to the mitigations generated during the Town's environmental review.

General Plan Conservation Policy C-20, Water Quality, and its subsequent Program C-g, Implement Stormwater Regulations, aim to enhance water quality by implementing MCSTOPPP best management practices (BMPs). In support of Program C-g, Title VI, Public Health, Safety, and Welfare, of the Municipal Code sets forth rules and regulations to control excavation, grading, and earthwork construction on land to safeguard public health, safety, and welfare. The Town of Tiburon's Urban Runoff Pollution Prevention Ordinance (Municipal Code Chapter 20A) requires the implementation of construction BMPs, including erosion and sediment control plan requirements, which directly address the potential for erosion and loss of topsoil during construction of projects. As is noted in Section 3.9, Hydrology and Water Quality, qualifying new development and redevelopment projects are required to prepare an erosion and sediment control plan (ESCP), a stormwater control plan (SCP), or similar demonstration of post-construction BMPs to mitigate downstream impacts to flooding and water quality. The ESCP/SCP would require the project to incorporate site design measures and/or treatment facilities that minimize imperviousness, minimize or detain stormwater, slows runoff rates, and reduces pollutants in post-development runoff. Where required by the authorized enforcement official, as a condition precedent to the issuance of a building permit, project applicants are required to submit a preliminary stormwater facilities operation and maintenance plan (O&M plan). The approval of the O&M plan by the agency is required prior to final inspection and approval of building permit closure. The SCP must also include a statement accepting responsibility to maintain the stormwater treatment facilities until that responsibility is transferred to the project operator or owner or another responsible party. Further discussion on hydrological procedures and maintenance can be found in Section 3.3-9, Hydrology and Water Quality, of this Draft EIR. Together with RWQCB requirements, construction projects are appropriately required to incorporate BMPs that effectively reduce the potential for erosion and sedimentation in on-site or off-site watercourses.

Through compliance with mandatory NPDES permit requirements, appropriate application of BMPs established in the Municipal Code and, submittal of necessary reports identified under General Plan 2040, future development projects would not result in substantial soil erosion. As such, potential Project impacts related to erosion and loss of topsoil would be ***less than significant***.

Mitigation Measures

None Required

Impact 3.6-3 **Development facilitated by the Project would not result in a significant impact related to development on unstable geologic units or soil, or geologic units or that would become unstable, or result in on- or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse.**

As mentioned in the Environmental Setting, the majority of soils within the Planning Area consist of clay soils and sandy loams (refer to Figure 3.6-2). The flatland areas of Tiburon are underlain by alluvial deposits, unconsolidated flood-plain deposits, sand, silt, gravel, and clay. Hillside areas of the Planning Area contain steep slopes, weak bedrock, and local landslide deposits (refer to Figure 3.6-5). Engineering challenges associated with coastal areas include weak compressible soils and risk of liquefaction as seen in Figure 3.6-4. While collapsible soils and subsidence have not been identified in the Planning Area as significant issues, the potential for liquefaction-induced settlement is present.

Certain geologic units present in the Planning Area could have the potential for landslides, slope instability, and liquefaction. Other geologic hazards, such as subsidence, lateral spreading, or collapse, could pose a potential hazard for future development. Implementation of the General Plan 2040 would accommodate the future development of both residential and non-residential uses. To accommodate anticipated growth in Tiburon, development allowed under the Project could occur within areas containing unstable geologic units.

The General Plan 2040 includes a number of policies and programs specifically designed to protect individuals from injuries and minimize property damage resulting from land instability and geologic hazards. The Safety and Resilience Chapter contains policies and programs specifically dedicated to minimizing seismic and geologic hazards. For example, Safety and Resilience Policy SR-6, Development in Areas with Geologic Hazards, assures that development allowed within areas of potential geologic hazard is neither endangered by, nor contributes to, the hazardous conditions on the site or on surrounding properties. Program SR-j, Building Code Compliance, requires that new development and infrastructure projects conform to seismic requirements of the CBC. Under Program SR-k, Geotechnical Analysis, new development projects are required to have a report prepared by a qualified engineer in order to determine the extent of geotechnical hazards, specify adequate repair/improvement techniques, and, set forth any special requirements for the sites. Program SR-l, requires that new development in areas subject to land sliding comply with the Town's Landslide Mitigation Policy, or requires physical improvements to landslide and to potential landslide areas, in instances where avoidance is not feasible or appropriate. Compliance with General Plan 2040 policies and programs would help ensure future development associated with the Project would not result in significant impacts related to unstable geologic units or soil, or geologic units or that would become unstable, or result in on- or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse.

In addition to the General Plan 2040 policies, Municipal Code Chapter 13, Building Regulations, institutes permit processes, fees, technical codes, and development standards for all general development projects. Section 13-2 states that "no person shall do any excavating or grading without first obtaining a grading permit from the building inspection division." The Tiburon Building Inspection Division ensures that construction in the Town is compliant with adopted technical construction codes, in conformance with accepted building practices, and consistent with the Town's adopted policies and regulations. The Building Division issues permits, conducts regular building permit inspections, performs plan check reviews for construction applications, and, performs code enforcement. With few exceptions, building permits are required for all construction involving electrical, mechanical, plumbing, re-roofing, or drainage work.[2] With permit approval by the Building Inspection Division, future projects would not result in a significant impact related to development on unstable, or potentially unstable, geologic units or soil.

As such, with the implementation of the policies and programs in the General Plan 2040, adherence to the Municipal Code, as well as compliance with applicable State and local codes, potential ground instability or failure impacts associated with future development would be ***less than significant***.

Mitigation Measures

None Required

Impact 3.6-4 **Development facilitated by the Project would not result in the construction of structures on expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.**

As discussed in Environmental Setting, the soils in the Planning Area soils vary from a low shrink-swell potential to a high shrink-swell potential (refer to Figure 3.6-6). Portions of the Planning Area with a high expansive soil potential are located in the foothill areas and along the coast of the western Planning Area. The eastern portions of the Planning Area, particularly Angel Island, and the western portion of the Tiburon Peninsula, have a low to moderate expansive soil potential with a moderate potential typically with the areas of higher elevation.

Implementation of the General Plan 2040 would accommodate the future development of both residential and non-residential uses. While the Project is programmatic in nature, and does not propose any site-specific projects, it does identify potential sites appropriate for potential development. As such, new development could possibly be constructed on

[2] Town of Tiburon, 2023. Building. Available: http://www.townoftiburon.org/157/Building. Accessed February 6, 2023.

expansive soils and could then, be subject to damage or become unstable when underlying soil shrinks or swells.

General Plan Safety and Resilience Chapter Program SR-j, Building Code Compliance, requires new development and infrastructure projects conform to seismic requirements of the California Building Code (CBC). The CBC includes requirements to address soil-related hazards, including expansive soils. Typical measures to treat hazardous soil conditions involve removal, proper fill selection, and compaction. In cases where sufficiently mitigating hazardous soils is not feasible, the CBC requires structural reinforcement of foundations to resist expansive soil forces.

General Plan Program Safety and Resilience Program SR-k, Geotechnical Analysis, requires reports be prepared by a qualified engineer for new development proposals to determine the extent of geotechnical hazards, specify adequate repair/improvement techniques, describe optimum design for structures and improvements, and set forth any special requirements for the sites.

In addition to the General Plan 2040 regulations, the Municipal Code Chapter 13, Building Regulations, states that "no person shall do any excavating or grading without first obtaining a grading permit from the building inspection division." As discussed in Impact 3.6-3, the Tiburon Building Inspection Division ensures that construction in the Town is compliant with adopted technical construction codes, in conformance with accepted building practices, and consistent with the Town's adopted policies and regulations. The Building Inspection Division issues permits, conducts regular building permit inspections, performs plan check reviews for construction applications, and, performs code enforcement.[3] The Building Inspection Division imposes requirements for revisions, to ensure projects comply with the CBC while reflecting any additional measures deemed appropriate based on the required geotechnical report. Permit issuance is based upon satisfactory completion of any applicable measures. As such, with the implementation of the policies and programs in the General Plan 2040, adherence to the Municipal Code, as well as compliance with applicable State and local codes, potential impacts related to expansive soils would be reduced to a ***less-than-significant*** level.

Mitigation Measures

None Required

[3] Town of Tiburon, 2023. Building. Available: http://www.townoftiburon.org/157/Building. Accessed February 6, 2023.

Impact 3.6-5 **Development facilitated by the Project would not place septic tanks or alternative wastewater disposal systems in areas where soils are not capable of supporting such uses.**

Implementation of the General Plan 2040 would accommodate the future development of both residential and non-residential uses. Under the Project, the location and timing of growth in the City would be planned with consideration for infrastructure capacity, public service availability, and fiscal impacts. While likely to connect to the existing sewer system, future development facilitated by the Project could implement new, or expand upon, septic tanks or alternative wastewater disposal systems.

General Plan 2040 Land Use Policy LU-4, Sanitary Sewer, encourages the connection of new development to the sanitary sewer system. However, when and where a septic or on-site sewage system is proposed, a soils investigation shall determine that on-site soil conditions are suitable for drainage beforehand, and shall determine that Project conditions will not cause slope instability. All new or improved septic systems shall be designed by a registered civil engineer that specializes in septic design.

Further, as discussed in Impact 3.6-3, the Tiburon Building Inspection Division reviews plans and applications for site clearance, grading, and building permits to ensure compliance with Municipal Code Chapter 13, Building Regulations. The Building Inspection Division ensures that construction in the Town is compliant with adopted technical construction codes, in conformance with accepted building practices, and consistent with the Town's adopted policies and regulations. The Building Inspection Division would not issue permits to projects in areas where soils are not capable of supporting such development, unless adequate mitigation is provided and applied.

Further, all future development associated with the implementation of the Project that wants to utilize alternative wastewater systems would be subject to Municipal Code Chapter 13C, Individual and Alternative Sewage Disposal Systems, which adopts the Marin County individual and alternative sewage disposal system ordinances, with minor modifications. Such projects would also be subject to General Plan 2040 Safety and Resilience Program SR-k, Geotechnical Analysis. Program SR-k requires preparation of a report by an engineering geologist or geotechnical engineer for new development proposals, to determine the extent of geotechnical hazards, specify adequate repair/improvement techniques, describe optimum design for structures and improvements, and set forth any special requirements for the site.

As such, any proposed septic tanks or alternative wastewater disposal systems facilitated by General Plan 2040 implementation would be analyzed in a geologic investigation in which recommendations could be made regarding unstable soil concerns before approval. Such projects would need permit approval from the Building Inspection Division as well. Further

discussion on sewer and utilities systems can be found in Section 3.15, Utilities and Service Systems, of this Draft EIR.

Adherence to the Municipal Code, implementation of policies and programs in the General Plan 2040, as well as applicable local codes, would ensure that new septic tanks or alternative wastewater disposal systems would be constructed on soils that can support such systems. Therefore, impacts would be ***less than significant***.

Mitigation Measures

None required

Impact 3.6-6 Development facilitated by the Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

As discussed in Environmental Setting, Tiburon consists of two general topographic zones: the lowland zone and the hillside zone. The lowland zone corresponds to estuarine and flatland soils, and the hillside zone includes steep slopes and rocky soils. The flatland areas of Tiburon are underlain by alluvial deposits, unconsolidated flood-plain deposits, sand, silt, gravel, and clay, irregularly interstratified. The hillside areas of Tiburon consist primarily of tilted marine sedimentary and volcanic rocks that range in age from Paleocene to Pliocene. Hillside areas of the Planning Area contain steep slopes, weak bedrock, and local landslide deposits.

Any project involving earth-moving activity could potentially result in inadvertent discovery and disturbance of paleontological resources during grading and excavation work. However, as established in the Existing Conditions Report Conservation Chapter, the Planning Area does not contain any identified paleontological resources and, the likelihood of encountering paleontological resources is low.

Potential impacts to paleontological resources would be minimized through compliance with federal and State laws that protect paleontological resources. Section 5097 of the Public Resources Code specifies procedures to be followed in the event of unexpected discovery of paleontological resources. Project compliance with local, State, and federal regulations would reduce the potential to impact paleontological resources directly and indirectly. However, because the possibility of uncovering a previously undiscovered paleontological resources is possible, the impact is potentially **significant**.

Mitigation Measures

MM 3.6-6 *If any paleontological resources (fossils) or unique geologic features are discovered during grading or construction activities within the project area, work shall be halted immediately within 50 feet of the discovery, and the Town Planning Division shall be immediately notified. The project applicant will retain a qualified paleontologist to evaluate the resource and prepare a recovery plan in accordance*

with Society of Vertebrate Paleontology guidelines (SVP 2010). The recovery plan may include but is not limited to a field survey, construction monitoring, sampling and data recovery procedures, museum storage coordination for any specimen recovered, and a report of findings. Recommendations in the recovery plan that are determined by the Town to be necessary and feasible will be implemented by the applicant before construction activities resume in the area where the paleontological resources were discovered.

Implementation of Mitigation Measure 3.6-6 would enforce halting of construction activities, and ensure protection of unique paleontological resources and unique geologic features should they be discovered during site disturbing activities. Mitigation Measure 3.6-6 would suspend construction and require a professional paleontologist to prepare a recovery plan. Construction – including excavation and grading – activities would be suspended until the recommendations in the recovery plan, that the Town determines to be necessary and feasible, are implemented by the project applicant.

Therefore, with mandatory regulatory compliance with adopted State, federal, regional, and local regulations, and the implementation of Mitigation Measure 3.6-6, future development under the General Plan 2040 Update would not result in significant adverse effects to paleontological or unique geologic resources and, impacts would be considered ***less than significant***.

Cumulative Impacts

The geographic context for analysis of cumulative impacts related to geology, soils, and seismicity includes the incorporated and unincorporated lands comprising the Planning Area. The geographic context for paleontological resources includes Marin County. This analysis evaluates whether impacts of the General Plan 2040, together with impacts of cumulative development, could result in a cumulatively significant impact to geology, soils, seismicity, or paleontological resources. This analysis then considers whether incremental contribution of impacts associated with implementation of the Project would be significant. Both conditions must apply for a project's cumulative effects to rise to the level of significance.

Impact 3.6-7	**Development facilitated by the Project, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to geology, soils, seismicity, or paleontological resources.**

Potentially adverse environmental effects associated with seismic hazards, as well as those associated with expansive soils, topographic alteration, and erosion, usually are site-specific and generally do not result in cumulative effects.

Cumulative projects could be exposed to moderate to strong ground shaking during seismic events, but the development of individual projects would not increase the potential for impacts to occur. Individual development proposals would be reviewed separately by the appropriate public agency depending on location and undergo environmental review if appropriate. In the event that future cumulative development would result in impacts related to geologic or seismic impacts, those potential project or site-specific impacts would be addressed in accordance with the requirements of CEQA. New buildings would be constructed utilizing current design and construction methodologies for earthquake resistant design as required by relevant regulations. Compliance with the CBC, NPDES permits, Marin County Code, and laws and regulations mentioned above, would ensure that cumulative development would have ***less-than-significant impacts*** regarding geology, soils, or seismicity.

As cumulative development occurs, all future projects must comply with the federal, State, and pertinent local regulations regarding structural stability to reduce potential impacts from liquefaction, lateral spreading, or landslides. Compliance with established regulations, including the CBC, would result in ***less-than-significant cumulative impacts*** related to subsidence or collapse.

It is expected, and desired by the Town, that new development associated with the Project would connect to existing sewer systems. However, under Municipal Code provisions, alternative waste water systems are allowed within the Planning Area. So, while unlikely, cumulative development within the Planning Area could result in the use of septic tank systems in the future. However, compliance with Municipal Code and General Plan policies would ensure cumulative development would not contribute to potentially-significant impacts on the soils. General Plan Land Use Policy LU-4, requires a soils investigation to determine if on-site soil conditions are suitable for drainage; the investigation is also meant to determine if a project will cause slope substantial instability or not. Regardless, all new or improved septic systems shall be designed by a registered civil engineer that specializes in septic design. The Project's incremental contribution to these less-than-significant cumulative impacts would not be significant. Therefore, implementation of the Project would not contribute to potential cumulative impacts related to soils supporting septic systems and reduces potential cumulative impacts to ***less than significant***.

Any project involving earth-moving activity could potentially result in inadvertent discovery and disturbance of paleontological resources during grading and excavation work; these inadvertent discoveries could create potentially-significant impacts.

As analyzed in 3.6-6, the Planning Area does not contain any identified paleontological resources and, the likelihood of encountering paleontological resources is low. However, while unlikely, future development associated with the General Plan 2040 could have potential to cumulatively impact paleontological resources, and the project would have a

cumulatively considerable contribution to that impact. As such, the cumulative impact to paleontological resources would be ***potentially significant***.

Mitigation Measures

MM 3.6-7 *Implement Mitigation Measure 3.6-6*.

All cumulative projects, including development facilitated under the General Plan 2040, would be required to comply with federal, State, and local policies. Implementation of Mitigation Measure 3.6-6 would ensure that paleontological resources inadvertently discovered during implementation of the General Plan 2040 would protect paleontological resources by halting construction, assessing the significance of the find, and preparing a recovery plan to preserve or protect the resource. Implementation of Mitigation Measure 3.6-6 would reduce potential cumulative impacts to paleontological resources to a ***less-than-significant level***.

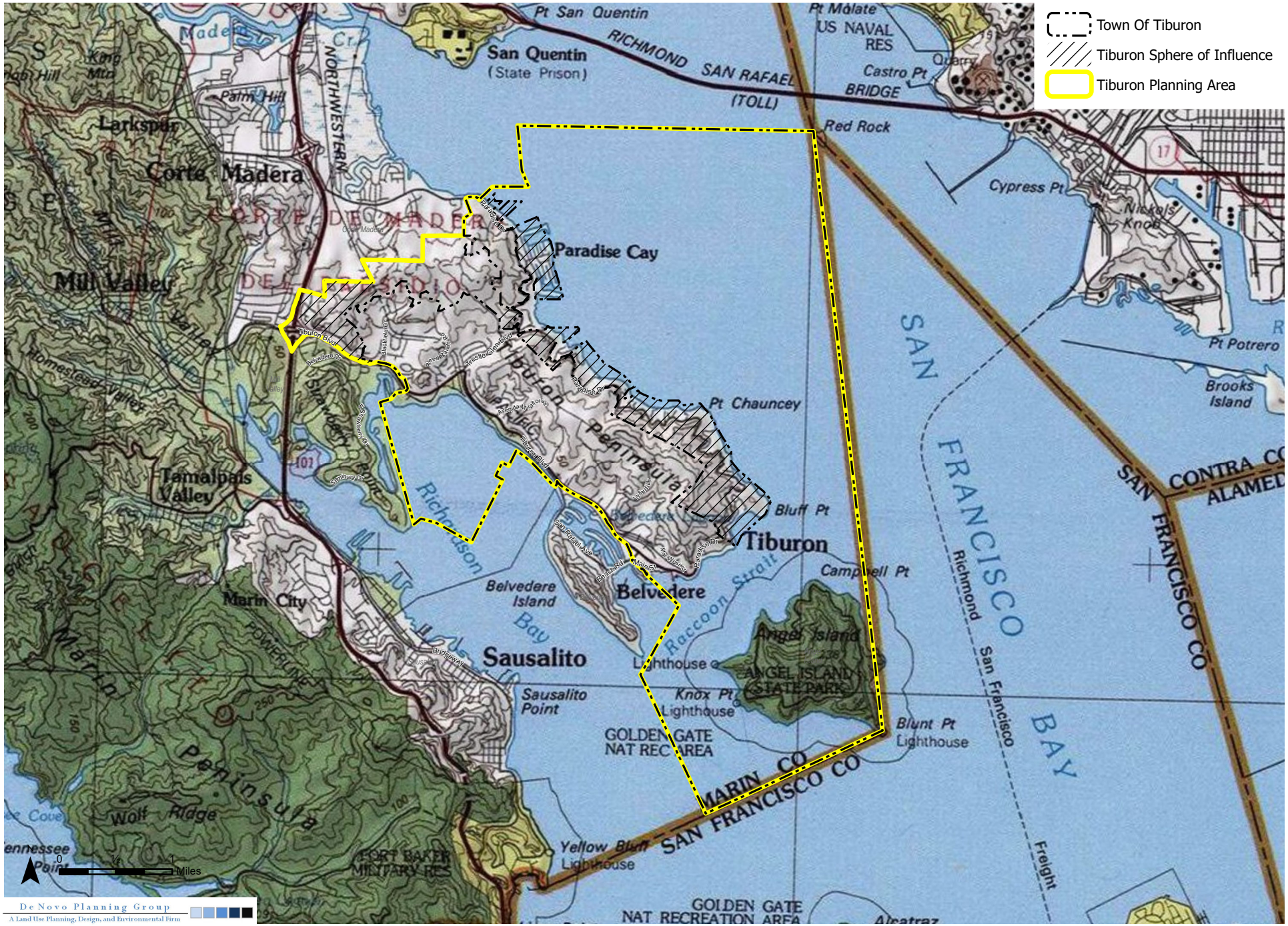
3.6.6 REFERENCES

De Novo Planning Group, 2022. Existing Conditions Report.

SWRCB (State Water Resources Control Board), 2012. National Pollutant Discharge Elimination System (NPDES), General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order 2012-006-DWQ NPDES # CA000002).

Town of Tiburon, 2023. Building. Available: http://www.townoftiburon.org/157/Building. Accessed February 6, 2023.

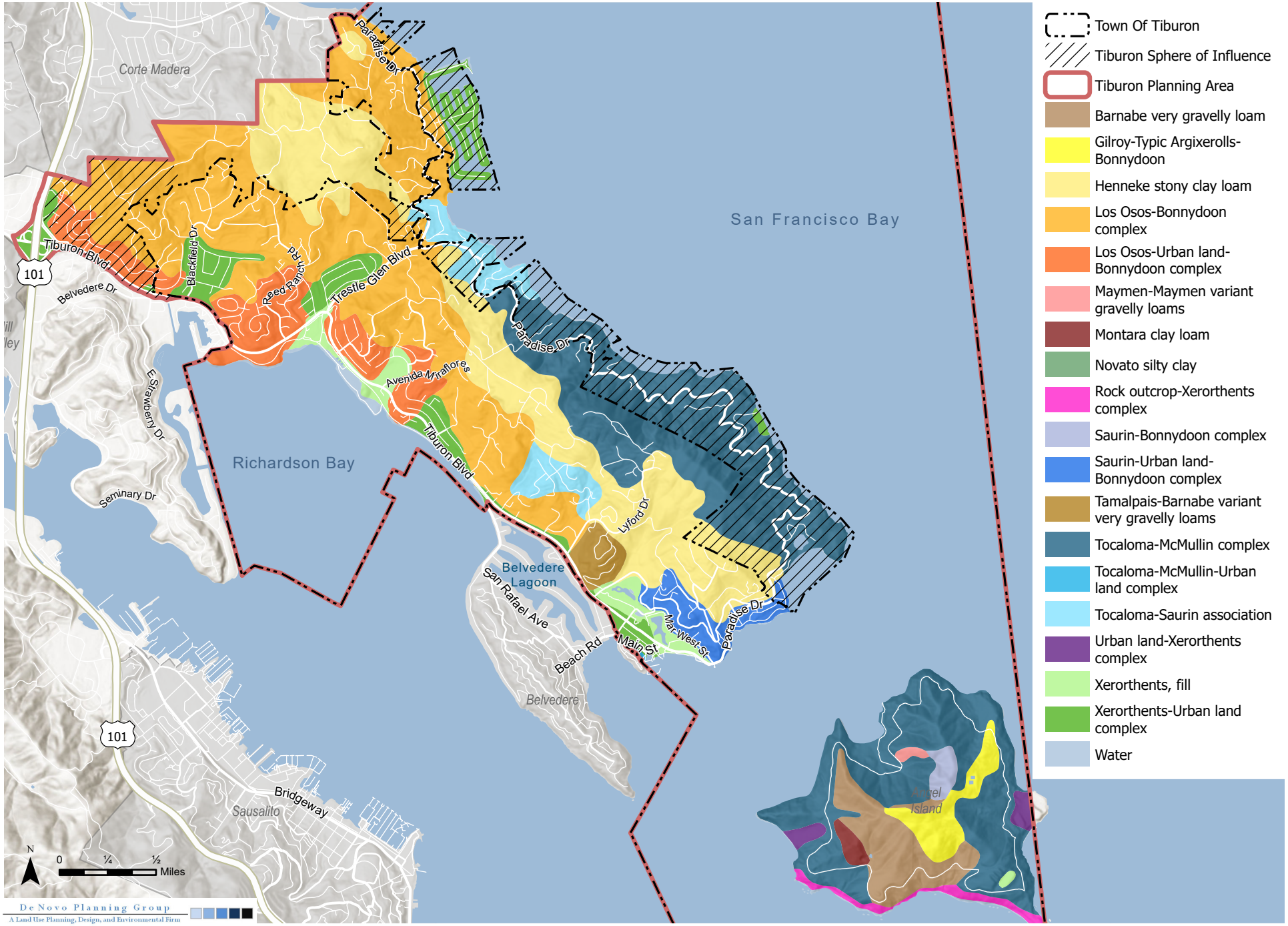
Figure 3.6-1. USGS Topographic Map



De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

Sources: ArcGIS Online USGS Topographic Service; Marin County GIS. Map date: February 2, 2023.

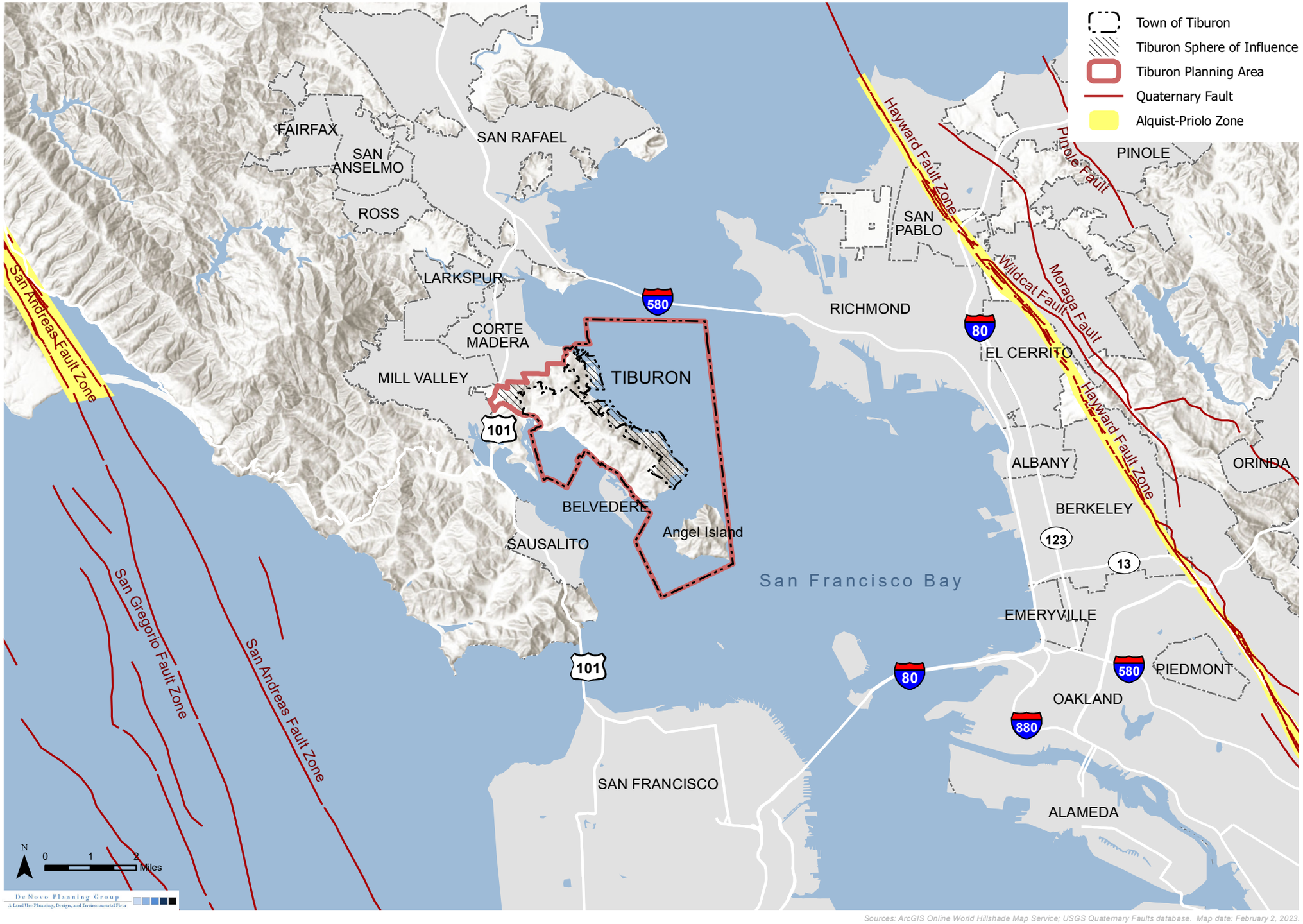
Figure 3.6-2. NRCS Soil Map



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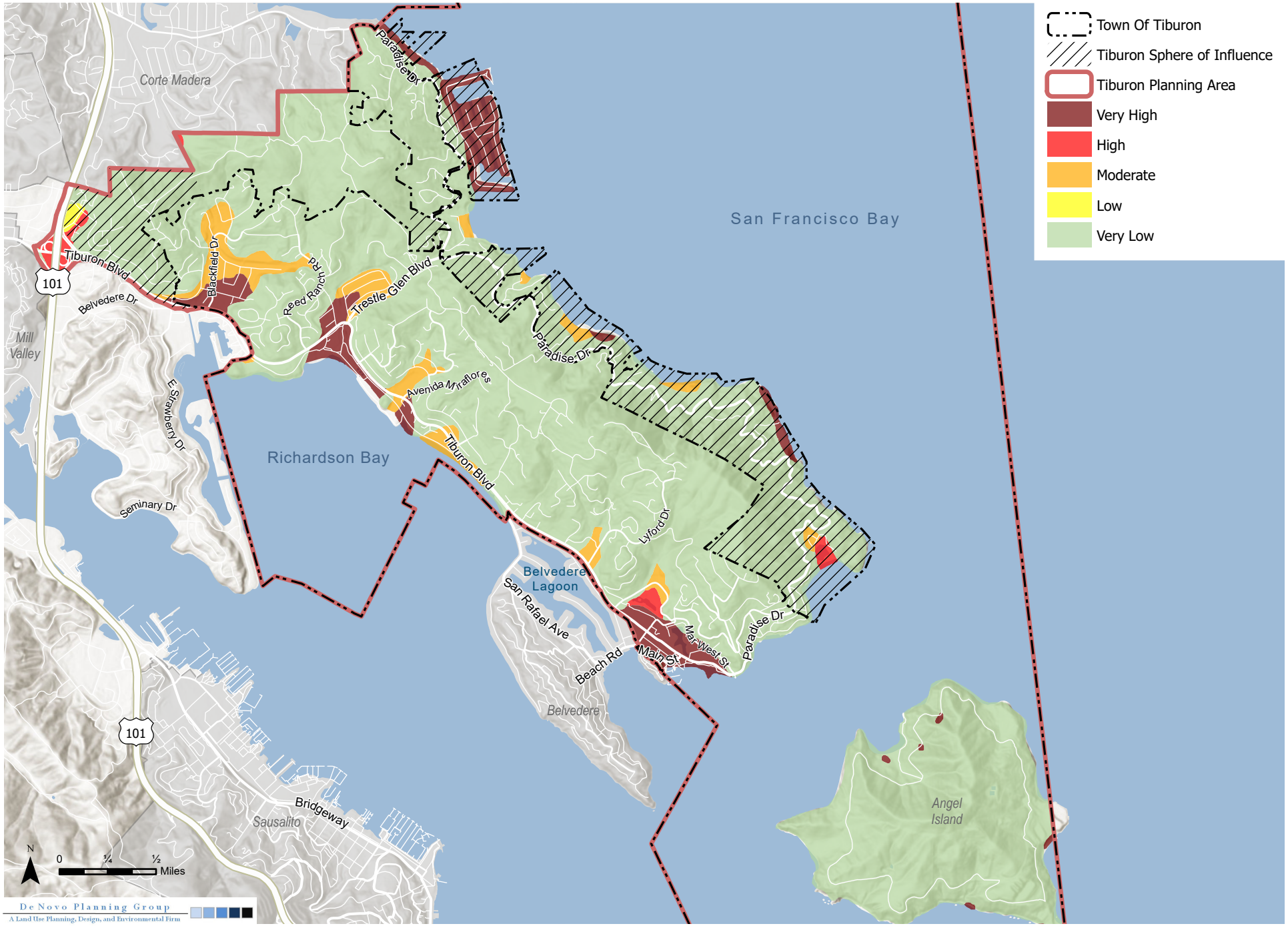
Sources: ArcGIS Online World Hillshade Map Service; NRCS Web Soil Survey, Marin County (CA041) and San Mateo County, Easter Part/San Francisco County (CA689); Marin County GIS. Map date: February 2, 2023.

Figure 3.6-3. Earthquake Faults



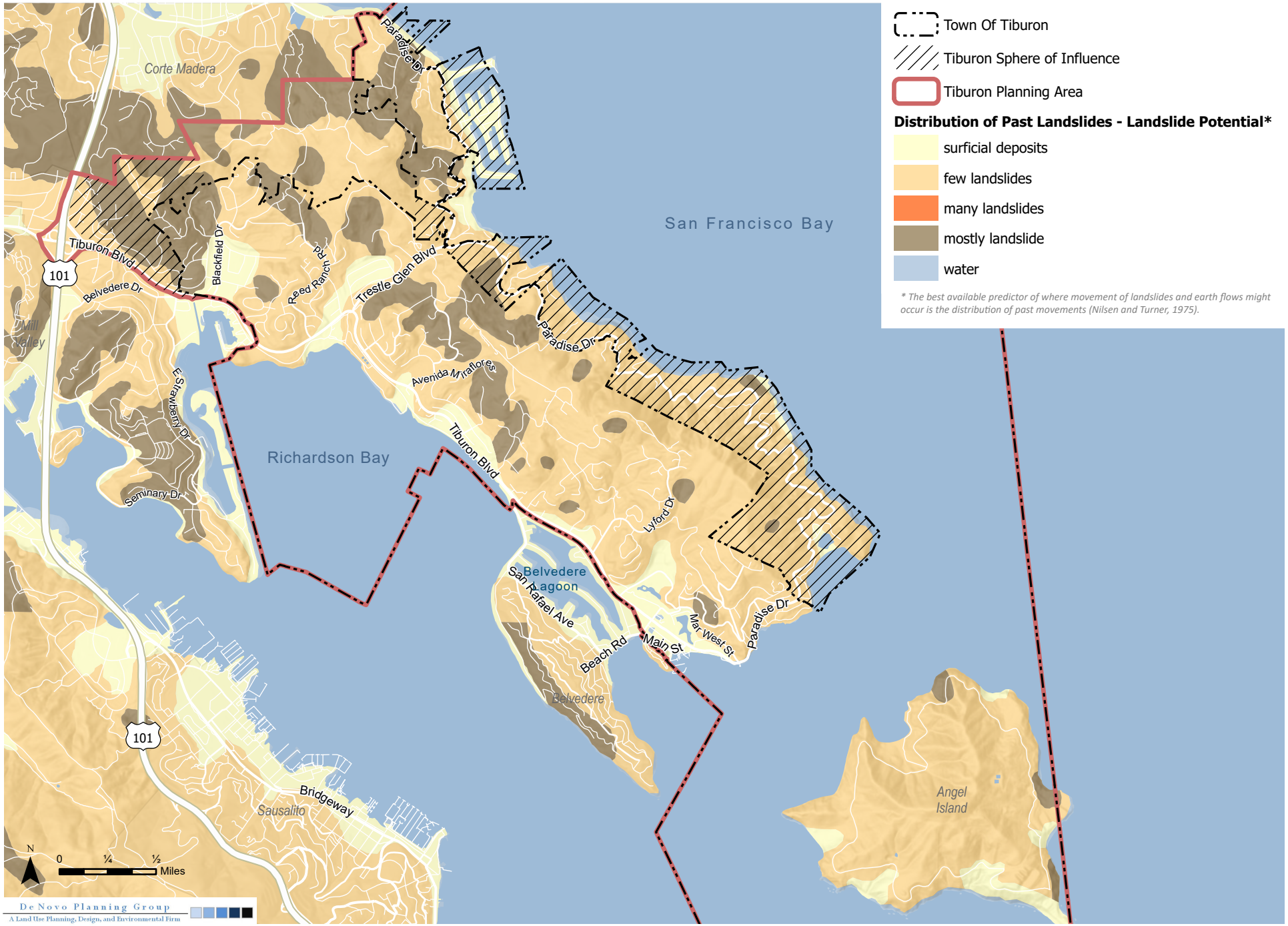
Sources: ArcGIS Online World Hillshade Map Service; USGS Quaternary Faults database. Map date: February 2, 2023.

Figure 3.6-4. Liquefaction Potential



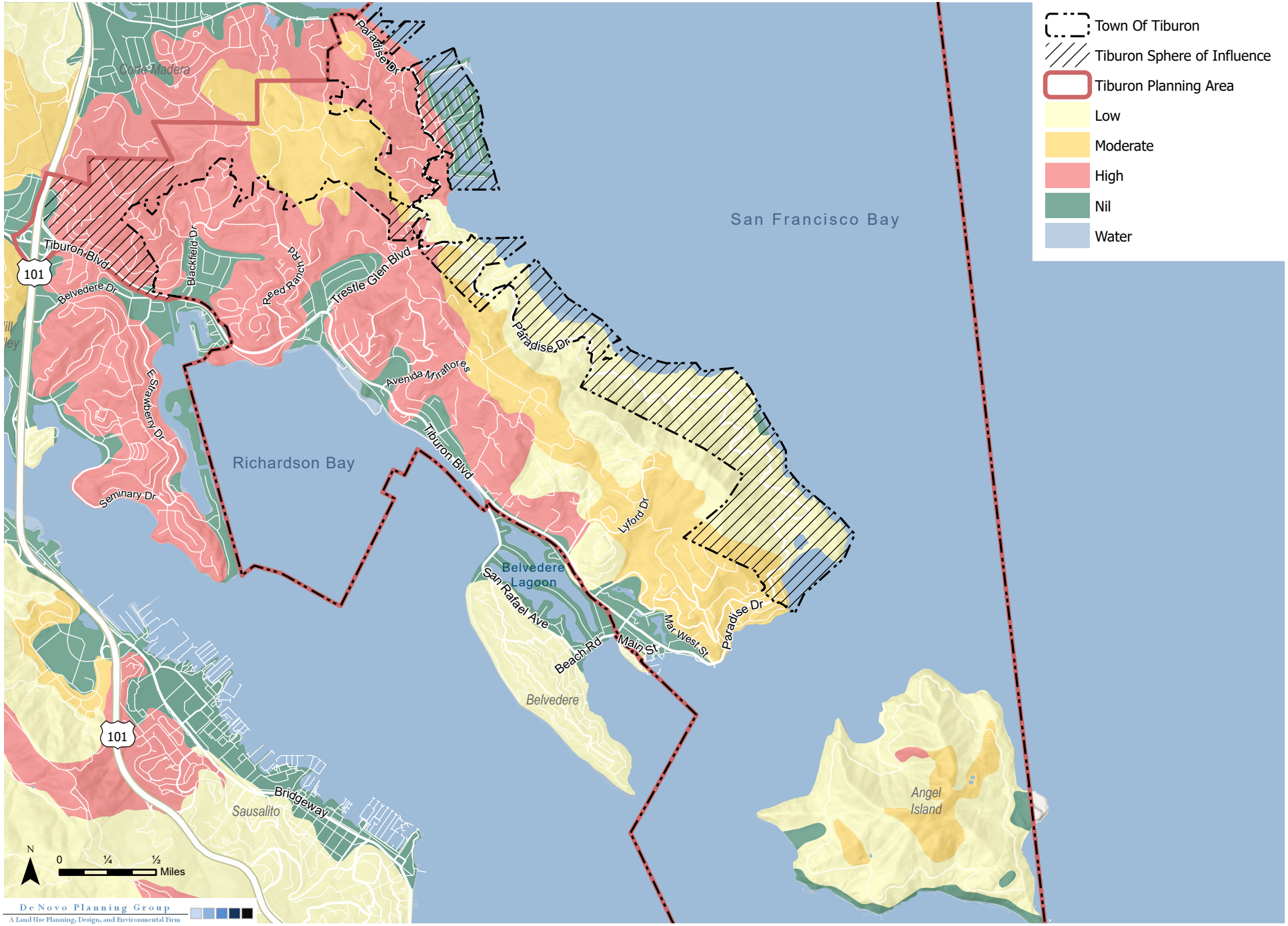
Sources: ArcGIS Online World Hillshade Map Service; Marin County GIS; Marin GeoHub "Liquefaction" 1/10/2020. Map date: February 2, 2023.

Figure 3.6-5. Landslide Potential



Sources: ArcGIS Online World Hillshade Map Service; Marin County GIS; Marin GeoHub "Landslides" 11/10/2020. Map date: February 2, 2023.

Figure 3.6-6. Expansive Soil Potential



Sources: ArcGIS Online World Hillshade Map Service; Marin GeoHub "Expansive Soil" 11/10/20.; Marin County GIS. Map date: February 2, 2023.

3.7 GREENHOUSE GAS EMISSIONS

This section describes the existing setting for greenhouse gas emissions and climate change, and the greenhouse gas and climate change impacts that are likely to result from Project implementation. There was one comment received during the public review period for the NOP related to greenhouse gas emissions or climate change; a comment regarding sea level rise was provided by a local resident.

Air quality emissions are discussed in Section 3.2, Air Quality.

3.7.1 EXISTING SETTING

Greenhouse Gas Emissions and Climate Change

Gases that absorb and re-emit infrared radiation in the atmosphere are called GHGs. Human activities are responsible for most of the increase in GHGs in the atmosphere over the last 150 years, mostly from changes in land cover and emissions of air pollutants associated with the industrial revolution and the generation of electricity. The largest source of GHG emissions from human activities in the United States is from burning fossil fuels for electricity, heat, and transportation. The four main GHGs emitted by human activities at the global scale are:[1]

- **Carbon dioxide (CO_2)** is primarily emitted from fossil fuel use. Carbon dioxide can also be emitted from direct human-induced impacts on forestry and other land use, such as through deforestation, land clearing for agriculture, and degradation of soils. Carbon dioxide can be removed from the atmosphere through reforestation, improvement of soils, and other activities.
- **Methane (CH_4)** is emitted from agricultural activities (livestock and other agricultural practices), waste management (decay of organic waste in municipal landfills and water treatment facilities), energy use, and biomass burning.
- **Nitrous oxide** is emitted during agricultural activities (e.g., fertilizer use), industrial activities, and during the combustion of fossil fuels and solid waste.
- **Fluorinated gases** are synthetic GHGs that are emitted from industrial processes, refrigeration, and the use of a variety of consumer products. Fluorinated gases include hydrofluorocarbons (HFCs), perfluorocarbons, sulfur hexafluoride, and nitrogen fluoride.

These GHGs have different global warming potential. The global warming potential of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale

[1] United States Environmental Protection Agency (EPA). Greenhouse Gas Emissions. Website: https://www.epa.gov/ghgemissions, Accessed April 28, 2020.

(generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emissions, referred to as "carbon dioxide equivalent" (CO_2e), and is the amount of a GHG emitted multiplied by its global warming potential. Carbon dioxide has a 100-year global warming potential of one. By contrast, CH_4 has a global warming potential of 28 over 100 years,[2] meaning its global warming effect is 28 times greater than carbon dioxide on a molecule per molecule basis. Nitrous oxide has a global warming potential of 265 over 100 years and HFC-152a has a global warming potential of 506 over 100 years.[3]

Indicators of Climate Change in California

The California Environmental Protection Agency (Cal/EPA) released a report on May 9, 2018, detailing the indicators of climate change in California.[4] Indicators are scientifically based measurements that track trends in various aspects of climate change. The report presents 36 indicators that show how climate change is affecting California, which are grouped into four categories: human-influenced drivers of climate change; changes in the State's climate; impacts of climate change on physical systems (oceans, lakes, snowpack); and impacts of climate change on biological systems (humans, vegetation, wildlife). A summary of the report is presented below followed by a table that summarizes the indicators of climate change in California.

Annual average air temperatures have increased throughout the State since 1895, with temperatures increasing at a consistently faster rate beginning in the 1980s. The last several years have seen record breaking temperatures due to climate change. Temperatures at night have increased even more than the daytime temperatures. Minimum temperatures (which generally occur at night) increased at a rate of 2.3°F (degrees Fahrenheit) per Century as compared to 1.3°F per Century for maximum (daytime) temperatures.

Temperature is a basic physical factor that affects many natural processes and human activities. Warmer air temperatures alter precipitation and runoff patterns, affecting the availability of fresh water supplies. Temperature changes can also increase the risk of severe weather events such as heat waves and more intense storms. A wide range of impacts on ecosystems and on human health and well-being are associated with increased temperatures.

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[2] Intergovernmental Panel on Climate Change, 2014: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, 151 pp.

[3] Intergovernmental Panel on Climate Change, 2014: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, 151 pp.

[4] California Environmental Protection Agency (Cal/EPA). 2018. Indicators of Climate Change in California. May. Website: https://oehha.ca.gov/media/downloads/climate-change/report/2018caindicatorsreportmay2018.pdf, Accessed April 17, 2020.

Warming temperatures and changing precipitation patterns have altered California's "physical systems" including the ocean, lakes, rivers, and snowpack. Winter snowpack and spring snowmelt runoff from the Sierra Nevada and southern Cascade Mountains provide approximately one-third of the State's annual water supply. Less snowpack accumulates when winter temperatures are warmer because more precipitation falls as rain instead of snow. As a result, the fraction of snowmelt runoff reaching the Sacramento River between April and July has decreased by about 9 percent since 1906. With less spring runoff, less water is available during summer months to meet the State's domestic and agricultural water demands. These reductions also affect the generation of hydroelectricity, impair cold-water habitat for certain fishes, and stress forest vegetation. The latter has consequences for long-term forest health and an associated increase in the risk of wildland fires.

Warming temperatures have also affected some of the largest glaciers in the Sierra Nevada, which have lost an average of about 70 percent of their area from the beginning of the 20th Century to the present day. Glacier shrinkage worldwide is an important contributor to global sea level rise. Along the California coast, sea levels have generally risen since 1900. Sea level rise threatens existing or planned infrastructure, development, and ecosystems along California's coast.

Warming temperatures have affected terrestrial, marine, and freshwater ecosystems in California. Species responses include elevational or latitudinal shifts in range; changes in the timing of key plant and animal life cycle events (known as "phenology"); and changes in the abundance of species and in community composition. With continued climate change, many species may be unable to adapt or to migrate to suitable climates, particularly given the influence of other factors such as land use, habitat alteration, and emissions of pollutants.

Climate change can impact human well-being in many ways, including injuries and fatalities from extreme climatic events (e.g., heat waves and intense storms) and respiratory stress from poor air quality (e.g., asthma). Vector-borne pathogen transmission and disease patterns in California have also been altered; West Nile Virus poses the greatest mosquito-borne disease threat.

Warmer temperatures, declining snowpack, and earlier spring snowmelt runoff have created conditions for extreme, high severity wildfires that spread rapidly, as evidenced by the largest recorded wildfire in the State (August Complex Fire) that occurred in August 2020. In parts of the Central Valley, certain fruits and nuts (specifically prunes and at least one variety of walnut) are maturing more quickly with warming temperatures, leading to earlier harvests. Shorter maturation times generally lead to smaller fruits and nuts, potentially causing a significant loss of revenue for growers and suppliers.

Table 3.7-1 provides and overview of the four indicators described in the CalEPA report.

TABLE 3.7-1: INDICATORS OF CLIMATE CHANGE IN CALIFORNIA

CLIMATE CHANGE DRIVERS	
	GHG emissions
	Atmospheric GHG concentrations
	Atmospheric black carbon concentrations
	Acidification of coastal waters
CHANGES IN CLIMATE	
	Annual air temperature
	Extreme heat events
	Winter Chill
	Cooling and heating degree days
	Precipitation
	Drought
IMPACTS OF CLIMATE CHANGE ON PHYSICAL SYSTEMS	
	Snowmelt runoff
	Snow-water content
	Glacier change
	Lake water temperature
	Coastal ocean temperature
	Sea level rise
	Dissolved oxygen in coastal waters
IMPACTS OF CLIMATE CHANGE ON BIOLOGICAL SYSTEMS	
ON HUMANS	Vector-borne diseases
	Heat-related mortality and morbidity
ON VEGETATION	Forest tree mortality
	Wildfires
	Ponderosa pine forest retreat
	Vegetation distribution shifts
	Changes in forests and woodlands
	Subalpine forest density
	Fruit and nut maturation time
ON WILDLIFE	Spring flight of Central Valley butterflies
	Migratory bird arrivals
	Bird wintering ranges

	Small mammal and avian range shifts
	Effects of ocean acidification on marine organisms (Type III)
	Nudibranch range shifts
	Copepod populations
	Sacramento River fall-run Chinook salmon abundance
	Cassin's auklet breeding success
	California sea lion pup demography

Note:
A "Type III" indicator is conceptual; no ongoing monitoring or data collection is in place for California.
Source: Indicators of Climate Change in California, California Environmental Protection Agency, May 2018.

Statewide Summary Report

The Statewide Summary Report presents an overview of the main findings from California's Fourth Climate Change Assessment.[5] The Summary Report aims to translate climate science into useful information for decision-makers and practitioners to catalyze action that will benefit regions, the ocean and coast, frontline communities, and tribal and indigenous communities. The Statewide Summary Report presents findings in the context of existing climate science, including strategies to adapt to climate impacts and key research gaps needed to spur additional progress on safeguarding California from climate change.

The Fourth Climate Change Assessment uses global climate models and Representative Concentration Pathways, as described in the Summary Report, to describe climate outcomes**.** Table 3.7-2 provides a qualitative description of the current understanding of historical and expected climate impacts in California.

[5] Governor's Office of Planning and Research, California Energy Commission, and California Natural Resources Agency. 2019. California's Fourth Climate Change Assessment: Statewide Summary Report. January 16.

TABLE 3.7-2: HISTORICAL AND EXPECTED CLIMATE IMPACTS IN CALIFORNIA

CLIMATE IMPACT	HISTORIC TRENDS	FUTURE DIRECTION OF CHANGE	CONFIDENCE FOR FUTURE CHANGE
TEMPERATURE	Warming (last 100+ years)	Warming	Very High
SEA LEVELS	Rising (last 100+ years)	Rising	Very High
SNOWPACK	Declining (past 60+ years)	Declining	Very High
ANNUAL PRECIPITATION	No significant trends (last 100+ years)	Unknown	Low
INTENSITY OF HEAVY PRECIPITATION EVENTS	No significant trends (last 100 years)	Increasing	Medium-High
FREQUENCY OF DROUGHT	No significant trends (last 100+ years)	Increasing	Medium-High
FREQUENCY AND INTENSITY OF SANTA ANA WINDS	No significant trends (last 60+ years)	Unknown	Low
MARINE LAYER CLOUDS	Some downward trends; mostly not significant (last 60+ years)	Unknown	Low
ACRES BURNED BY WILDFIRE	Increasing (last 30+ years)	Increasing	Medium-High

Source: Strategic Summary Report, Table 3. Website: ://WWW.ENERGY.CA.GOV/SITES/DEFAULT/FILES/2019-07/STATEWIDE%20REPORTS-%20SUM-CCCA4-2018-013%20STATEWIDE%SUMMARY%20REPORT.PDF Published January 16, 2019

3.7.2 REGULATORY SETTING

Federal

The U.S. Supreme Court in *Massachusetts et al. v. Environmental Protection Agency et al.* ([2007] 549 U.S. 05-1120) held that the United States Environmental Protection Agency (EPA) has the authority to regulate motor-vehicle GHG emissions under the federal Clean Air Act. The EPA issued a Final Rule for mandatory reporting of GHG emissions in October 2009. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufacturers of heavy-duty and off-road vehicles and vehicle engines and requires annual reporting of emissions. In 2012, the EPA issued a Final Rule that establishes the GHG permitting thresholds that determine when Clean Air Act permits under the New Source Review Prevention of Significant Deterioration (PSD) and Title V Operating Permit programs are required for new and existing industrial facilities.

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

On August 3, 2015, the EPA announced the Clean Power Plan, emissions guidelines for U.S. states to follow in developing plans to reduce GHG emissions from existing fossil fuel-fired power plants (Federal Register Vol. 80, No. 205, October 23, 2015). On February 9, 2016, the Supreme Court stayed implementation of the Clean Power Plan due to a legal challenge from 29 states and in April 2017, the Supreme Court put the case on a 60-day hold and directed both sides to make arguments for whether it should keep the case on hold indefinitely or close it and remand the issue to the EPA. On October 11, 2017, the EPA issued a formal proposal to repeal the Clean Power Plan and on June 19, 2019, the EPA issued the Affordable Clean Energy Rule that replaces the Clean Power Plan.

On September 27, 2019, the EPA and the National Highway Safety Administration published the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks (SAFE Vehicles Rule). Part One of the SAFE Vehicles Rule revokes California's authority to set its own GHG emissions standards and zero-emission vehicle mandates in California, which results in one emission standard to be used nationally for all passenger cars and light trucks that is set by the EPA.

State

California Code of Regulations Title 24, Part 6

The California Energy Commission (CEC) is responsible for implementing the California Code of Regulations Title 24, Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings that were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. In 2008 the State set an energy-use reduction goal of zero-net-energy use of all new homes by 2020 and the CEC was mandated to meet this goal through revisions to the Title 24, Part 6 regulations.

The Title 24 standards are updated on a 3-year schedule and since 2008 the standards have been incrementally moving to the ultimate goal of the zero-net-energy use. On January 1, 2023, the 2022 standards went into effect, which have been designed so that the average new home built in California will now result in zero-net-energy demand. The regulations are also designed to ensure that non-residential buildings will use substantially less energy than the 2019 standards. The 2022 standards encourage the use of battery storage, the use of heat pump water heaters, and also require widespread use of light emitting diode (LED) lighting, as well as improvements to the thermal envelope of buildings through high performance attics, walls and windows. Additionally, the 2022 standards limit the use of gas appliances, require ventilation of gas stoves, require non-residential steam trap monitoring, limit non-residential outdoor lighting sources, and require an increase in non-residential computer room efficiency.

California Code of Regulations Title 24, Part 11

California Code of Regulations Title 24, Part 11 (CALGreen) was developed in response to continued efforts to reduce GHG emissions associated with energy consumption. CALGreen is also updated every three years and the current version is the 2022 CALGreen that become effective on January 1, 2023.

The CALGreen Code contains requirements for construction site selection; stormwater 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 verifying that all building systems (e.g., heating and cooling equipment and lighting systems) are functioning at their maximum efficiency.

The CALGreen Code provides standards for bicycle parking, carpool/vanpool/electric vehicle spaces, light and glare reduction, grading and paving, energy efficient appliances, renewable energy, graywater systems, water efficient plumbing fixtures, recycling and recycled materials, pollutant controls (including moisture control and indoor air quality), acoustical controls, stormwater management, building design, insulation, flooring, and framing, among others. Implementation of the CALGreen Code measures reduces energy consumption and vehicle trips and encourages the use of alternative-fuel vehicles, which reduces pollutant emissions.

Some of the notable changes in the 2022 CALGreen Code over the prior 2019 CALGreen Code include a requirement for automatic sprinklers for large parking garages in high-rise buildings and in buildings with a height exceeding 55 feet, additional illumination for exit stairways and exit access, and other more stringent fire protection requirements. The 2022 Building Code establishes an energy budget based on efficient heat pumps or water heaters to encourage installation of heat pumps over gas-fueled HVAC units and requires homes to be electric-ready, with dedicated 240-volt outlets and space, so electric appliances can eventually replace installed gas appliances.

California Advanced Clean Cars Program

On September 27, 2019, the EPA and the National Highway Safety Administration published the SAFE Vehicles Rule Part One: One National Program. The Part One Rule revokes California's authority to set its own GHG emissions standards and sets zero-emission vehicle mandates in California. To account for the effects of the Part One Rule, the California Air Resources Board (the CARB) released off-model adjustment factors on November 20, 2019, to adjust criteria air pollutant emissions outputs from the EMFAC model. These off-model adjustment factors are to be applied by multiplying the emissions calculated for light- and medium-duty vehicles by the adjustment factor. These model adjustment factors were incorporated into the latest version of the EMFAC model (EMFAC2021). With the incorporation of these adjustment factors, operational emissions generated by light-duty

automobiles, light-duty trucks, and medium-duty trucks associated with project-related vehicle trips at the year 2030 (a conservative year to use as the project buildout is year 2026) would be approximately 0.5 percent greater for reactive organic gas (ROG), 1.4 percent greater for particulate matter, 0.5 percent greater for NO_X, and 1.6 percent greater for CO.

Executive Order B-30-15

In September 2020, Governor Gavin Newsom issued Executive Order N-79-20, which requires sales of all new passenger vehicles to be zero-emission by 2035 and additional measures to eliminate harmful emissions from the transportation sector.

Assembly Bill 1279

Assembly Bill (AB) 1279 (Muratsuchi, Chapter 337, Statutes of 2022), the California Climate Crisis Act, commits California to reducing GHG emissions 85 percent below 1990 levels and achieving carbon neutrality by 2045. AB 1279 also requires California to maintain a net negative greenhouse gas emissions thereafter. The bill would require the California Air Resources Board to work with relevant state agencies to ensure that updates to the scoping plan identify and recommend measures to achieve these policy goals and to identify and implement a variety of policies and strategies that enable carbon dioxide removal solutions and carbon capture, utilization, and storage technologies in California, as specified. AB 1279 would also require the CARB to submit an annual report.

Executive Order B-30-15, Senate Bill 32, and Assembly Bill 197

The California Governor issued Executive Order B-30-15 on April 29, 2015, that aims to reduce California's GHG emissions 40 percent below 1990 levels by 2030. This Executive Order aligns California's GHG reduction targets with those of other international governments, such as the European Union that set the same target for 2030 in October 2014. This target will make it possible to reach the ultimate goal of reducing GHG emissions 80 percent under 1990 levels by 2050 that is based on scientifically established levels needed in the United States to limit global warming below 2 degrees Celsius – the warming threshold at which scientists say there will likely be major climate disruptions such as super droughts and rising sea levels. Assembly Bill (AB) 197 (September 8, 2016) and SB 32 (September 8, 2016) codified into statute the GHG emissions reduction targets of at least 40 percent below 1990 levels by 2030 as detailed in Executive Order B-30-15. AB 197 also requires additional GHG emissions reporting that is broken down to sub-county levels and requires the CARB to consider the social costs of emissions impacting disadvantaged communities.

Executive Order B-29-15

The California Governor issued Executive Order B-29-15 on April 1, 2015, and directed the State Water Resources Control Board to impose restrictions to achieve a Statewide 25 percent reduction in urban water usage and directed the Department of Water Resources to replace 50 million square feet of lawn with drought tolerant landscaping through an update to the State's Model Water Efficient Landscape Ordinance. The Ordinance also requires

installation of more efficient irrigation systems, promotion of greywater usage and onsite stormwater capture, and limits the turf planted in new residential landscapes to 25 percent of the total area and restricts turf from being planted in median strips or in parkways unless the parkway is next to a parking strip and a flat surface is required to enter and exit vehicles. Executive Order B-29-15 would reduce GHG emissions associated with the energy used to transport and filter water.

Executive Order B-48-18 and Assembly Bill 2127

The California Governor issued Executive Order B-48-18 on January 26, 2018, that orders all state entities to work with the private sector to put at least 5 million zero-emission vehicles on California roads by 2030 and to install 200 hydrogen fueling stations and 250,000 electric vehicle chargers by 2025. Currently there are approximately 350,000 electric vehicles operating in California, which represents approximately 1.5 percent of the 24 million vehicles total currently operating in California. Implementation of Executive Order B-48-18 would result in approximately 20 percent of all vehicles in California to be zero emission electric vehicles. AB 2127 was codified on September 13, 2018, and requires the CEC to work with the CARB to determine Statewide electric vehicle charging infrastructure needs to meet the State goal of at least 5 million zero emission vehicles in use by 2030.

Assembly Bill 1493

AB 1493 (also known as the Pavley Bill named after its author Fran Pavley) was enacted on July 22, 2002, and required the CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. In 2004, the CARB approved the "Pavley I" regulations limiting the amount of GHGs that may be released from new passenger automobiles that are being phased in between model years 2009 through 2016. By 2016, these regulations reduced GHG emissions by 30 percent from 2002 levels. In June 2009, the EPA granted California the authority to implement GHG emission reduction standards for light duty vehicles, and in September 2009, amendments to the Pavley I regulations were adopted by the CARB and implementation of the "Pavley I" regulations started in 2009.

The second set of regulations "Pavley II" was developed in 2010 and is being phased in between model years 2017 through 2025 with the goal of reducing GHG emissions by 45 percent by 2020 as compared to the 2002 fleet. The 2020 goal was met early in 2016.[6] The Pavley II standards were developed by linking the GHG emissions and formerly separate toxic tailpipe emissions standards previously known as the "LEV III" (third stage of the Low Emission Vehicle standards) into a single regulatory framework. The new rules reduce emissions from gasoline-powered cars as well as promote zero-emissions auto technologies such as electricity and hydrogen, and through increasing the infrastructure for fueling

[6] California Office of the Governor. 2019. Governor Newsom Announces Climate Pollution Continues to Drop Below 2020 Target While State's Economy Grows. August 12. Website: https://www.gov.ca.gov/2019/08/12/governor-newsom-announces-climate-pollution-continues-to-drop-below-2020-target-while-states-economy-grows/. Accessed May 29, 2020.

hydrogen vehicles. In 2009, the EPA granted California the authority to implement the GHG standards for passenger cars, pickup trucks, and sport utility vehicles and these GHG emissions standards are currently being implemented nationwide. However, EPA has performed a midterm evaluation of the longer-term standards for model years 2022-2025, and based on the findings of this midterm evaluation, the EPA has proposed to amend the corporate average fuel economy and GHG emissions standards for light vehicles for model years 2021 through 2026. The EPA's proposed amendments do not include any extension of the legal waiver granted to California by the 1970 Clean Air Act and which has allowed the State to set tighter standards for vehicle pipe emissions than the EPA standards. On September 20, 2019, California filed suit over the EPA decision to revoke California's legal waiver that has been joined by 22 other states.

California Executive Orders S-3-05 and S-20-06, Assembly Bill 32

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this Executive Order is to reduce California's GHG emissions to (1) 2000 levels by 2010; (2) 1990 levels by the 2020; and (3) 80 percent below the 1990 levels by the year 2050.

In 2006, this goal was further reinforced with the passage of AB 32, the Global Warming Solutions Act of 2006, which created a comprehensive, multi-year program to reduce GHG emissions in California. AB 32 required the CARB to develop a Climate Change Scoping Plan that describes the approach California will take to reduce GHGs to achieve the goal of reducing emissions to 1990 levels by 2020. The Scoping Plan was first approved by the CARB in 2008 and must be updated every 5 years. The First Update to the Climate Change Scoping Plan was approved by the Board on May 22, 2014.

In 2016, the Legislature passed SB 32, which codifies a 2030 GHG emissions reduction target of 40 percent below 1990 levels. With SB 32, the Legislature passed companion legislation AB 197, which provides additional direction for developing the Scoping Plan. The second update to the Scoping Plan was published by the CARB in November 2017. The 2017 Climate Change Scoping Plan identifies how the State can reach the 2030 climate target to reduce GHG emissions by 40 percent from 1990 levels, as set by Executive Order B-30-15 and codified by SB 32. The 2017 Climate Change Scoping Plan also describes how the State can substantially advance toward the 2050 climate goal to reduce GHG emissions by 80 percent below 1990 levels.

Senate Bill 375

SB 375, signed in August 2008, enhances the State's ability to reach AB 32 goals by directing the CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles for 2020 and 2035. In addition, SB 375 directs each of the State's 18 major Metropolitan Planning Organizations to prepare a "sustainable communities strategy" that contains a growth strategy to meet these emission targets for inclusion in the Regional Transportation Plan. On September 23, 2010, the CARB adopted final regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. In 2018, the State was not on

track to meet the 2020 goal.[7] At time of writing of this Revised Draft EIR, there has not been an update on whether the 2020 goal has yet been met.

Senate Bill 1383

Signed September 19, 2016, SB 1383 is a supplement the GHG reduction strategies in the Scoping Plan to consider short-lived climate pollutants, including black carbon and CH_4. Black carbon is the light-absorbing component of fine particulate matter produced during incomplete combustion of fuels (e.g., on-and off-road transportation, residential wood burning, charbroiling, and industrial processes). SB 1383 required the CARB, no later than January 1, 2018, to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants to achieve the following reductions below 2013 levels by 2030, including CH_4 by 40 percent, hydrofluorocarbon gases by 40 percent, and black carbon by 50 percent. SB 1383 also establishes targets for reducing organic waste in landfills (see Section 3.15, Utilities and Service Systems). In response to SB 1383, the CARB adopted the Final Proposed Short-Lived Climate Pollutant Strategy on March 14, 2017.

California Renewables Portfolio Standard

The California Renewables Portfolio Standard was established in 2002 under SB 1078, accelerated in 2006 under SB 107, expanded in 2011 under SB 2, and enhanced in 2015 by SB 350. The Renewables Portfolio Standard program requires investor-owned utilities, publicly owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 50 percent of total procurement by 2030.[8] SB 100, passed in September 2018, accelerates the Renewables Portfolio Standard to achieve a 50 percent renewable resources target by 2026, a 60 percent target by 2030, and set a standard for zero-carbon electricity by 2045.

California Environmental Quality Act, SB-97

Pursuant to the requirements of SB 97, the Resources Agency has adopted amendments to the State California Environmental Quality Act (CEQA) Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted CEQA Guidelines provide general regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts. To date, a variety of air districts have adopted quantitative significance thresholds for GHGs.

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7 California Air Resources Board (CARB). 2018. 2018 Progress Report: California's Sustainable Communities and Climate Protection Act. November.

8 California Public Utilities Commission (CPUC). California Renewables Portfolio Standard. Website: http://www.cpuc.ca.gov/rps/. Accessed April 28, 2020.

Regional

Plan Bay Area 2050

In October 2021, the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) adopted Plan Bay Area 2050, a 30-year plan that charts a course for a Bay Area that is affordable, connected, diverse, healthy and vibrant for all residents through 2050 and beyond. Thirty-five strategies comprise the heart of the plan to improve housing, the economy, transportation and the environment across the Bay Area's nine counties — Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano and Sonoma. Under Plan Bay Area 2050's strategies, greenhouse gas emissions from transportation would decrease significantly as a result of these transportation and land use changes, and the Bay Area would meet the state mandate of a 19% reduction in per capita emissions by 2035 — but only if all strategies are implemented.

BAAQMD 2050 Climate Resolution Goals

In 2013, the Bay Area Air Quality Management District (BAAQMD) Board of Directors approved a Resolution (No. 2013-11) adopted a GHG goal and a commitment to developing a regional climate protection strategy that commits to the following.

- Setting a goal for the Bay Area region to reduce GHG emissions to 80 percent below 1990 levels by 2050.
- Developing a Regional Climate Protection Strategy to make progress toward the 2050 goal and to complement existing climate action efforts at the State, regional, and local levels.
- Preparing a work program to guide the BAAQMD climate protection activities in the near term.

BAAQMD 2017 Clean Air Plan

BAAQMD adopted the 2017 Clean Air Plan on April 19, 2017 to comply with State air quality planning requirements set forth in the California Health & Safety Code. The 2017 Clean Air Plan includes a wide range of control measures designed to decrease emissions of the air pollutants that are most harmful to Bay Area residents, such as PM, ozone, and TACs, to reduce emissions of methane and other "super-greenhouse gases" that are potent climate pollutants in the near-term; and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.

The proposed control strategy for the 2017 Clean Air Plan consists of 85 specific control measures targeting a variety of local, regional, and global pollutants. The control measures have been developed for stationary sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, water, and super-GHG pollutants. Implementation of some of the control measures could involve retrofitting, replacing, or

installing new air pollution control equipment, changes in product formulations, or construction of infrastructure that have the potential to create air quality impacts.

The BAAQMD CEQA Guidelines set forth criteria for determining consistency with the Clean Air Plan. In general, a project is considered consistent if (1) the project supports the primary goals of the Clean Air Plan, (2) includes control measures and (3) does not interfere with implementation of the Clean Air Plan measures.

BAAQMD 2017 CEQA Air Quality Guidelines

The purpose of the CEQA Air Quality Guidelines is to assist lead agencies in evaluating air quality impacts of projects and plans proposed in the San Francisco Bay Area Air Basin. The Guidelines contain instructions on how to evaluate, measure, and mitigate air quality impacts generated from land development construction and operation activities. The Guidelines focus on criteria air pollutant, GHG, toxic air contaminant, and odor emissions generated from plans or projects and are intended to help lead agencies navigate through the CEQA process. The Guidelines for implementation of the Thresholds are for information purposes only to assist local agencies. Recommendations in the Guidelines are advisory and should be followed by local governments at their own discretion.

The most recent version of the CEQA Air Quality Guidelines were published May 2017, and includes revisions made to address the Supreme Court's opinion (*California Building Industry Association v. Bay Area Air Quality Management District*, December 2015).[9] The May 2017 Guidelines update does not address outdated references, links, analytical methodologies or other technical information that may be in the Guidelines or Thresholds Justification Report. The BAAQMD is currently working to update any outdated information in the Guidelines.

BAAQMD Justification Report: CEQA Thresholds for Evaluating the Climate Impacts of Land Use Projects and Plans

BAAQMD adopted the Justification Report: CEQA Thresholds for Evaluating the Climate Impacts of Land Use Projects and Plans (Justification Report) in April 2022. The Justification Report presents the Bay Area Air Quality Management District's (Air District's) recommended thresholds of significance for use in determining whether a proposed project will have a significant impact on climate change. The BAAQMD recommends that these thresholds of significance be used by public agencies to comply with the CEQA.

[9] In March 2012, the Alameda County Superior Court ordered BAAQMD to set aside use of the significance thresholds within the BAAQMD 2010 CEQA Guidelines and cease dissemination until they complete an assessment of the environmental effects of the thresholds in accordance with CEQA. The Court found that the thresholds, themselves, constitute a "project" for which environmental review is required. In August 2013, the First District Court of Appeal reversed the Alameda County Superior Court's decision. The Court held that adoption of the thresholds was not a "project" subject to CEQA because environmental changes that might result from their adoption were too speculative to be considered "reasonably foreseeable" under CEQA. In December 2015, the California Supreme Court reversed the Court of Appeal's decision and remanded the matter back to the appellate court to reconsider the case in light of the Supreme Court's opinion.

For General Plans, the BAAQMD recommends that cities and counties evaluate General Plans based on whether they will be consistent with California's long-term climate goal of achieving carbon neutrality by 2045. To be consistent with this goal, these plans should reduce GHG emissions in the relevant jurisdiction to meet an interim milestone of 40 percent below the 1990 emission levels by 2030, consistent with SB 32, and to support the State's goal of carbon neutrality by 2045. Cities and counties planning to develop in a manner that is not consistent with meeting these GHG reduction targets will have a significant climate impact because they will hinder California's efforts to address climate change.

Local

Tiburon General Plan

The existing General Plan includes goals, policies, and implementation measures that assist in reducing or avoiding impacts to greenhouse gases and climate change. These goals, policies, and implementation measures are found in the Open Space and Conservation Element and Circulation Element.

Tiburon Municipal Code

Article II, 13.4-10 of the Municipal Code (Energy Code) adopts the 2019 California Energy Code, Title 24, Part 6.

Chapter 13E (Water Efficient Landscape) contains regulations to support water conservation. All landscaping proposed for review and/or approval by the Town shall comply with the provisions of the Marin Municipal Water District Water Efficient Landscape Regulations.

Chapter 13.17 (Recycling and Diversion of Construction and Demolition (C&D) Waste) addresses construction and demolition reporting and diversion requirements for construction and demolition waste. The diversion requirements specified in the code for a project and for a certified recycling facility shall be a minimum of ninety percent on December 31, 2018, and ninety-four percent on December 31, 2025.

Chapter 10A.40 (Plastic Bags Prohibited) restricts stores from provides customers a plastic carryout bag. This is intended to reduce the amount of plastic bag pollution in the environment, reduce the impacts of paper bags which cause other forms of pollution and greenhouse gas emissions, and encourage reusable bags by consumers and retailers.

Tiburon Climate Action Plan

The purpose of the Town of Tiburon Climate Action Plan 2030 (Tiburon CAP, or CAP) is to compile existing and potential strategies (i.e., actions, projects, and programs) that the Town's government and the community can use to address climate change. The CAP incorporates the Town's 2005 through 2020 Greenhouse Gas Emission Inventories, which identified sources of greenhouse gas emissions generated by the community and the local government; estimates how these emissions may change over time under a business-as-

usual forecast and provides energy use, transportation, land use, waste, water, wastewater, and natural system strategies necessary to minimize Tiburon's impacts on climate change and meet the Town's adopted greenhouse gas emissions reduction targets of mitigation and sequestering GHG emissions to 50% below 1990 levels by year 2030, and carbon neutrality by year 2050. The CAP includes the following strategies and actions to reduce greenhouse gas emissions:

LCT-C1: Zero Emission Vehicles. Take actions that will result in at least 45% of registered passenger vehicles in Tiburon and Marin County to be zero emission vehicles (ZEVs), including plug-in electric vehicles (EVs) and hydrogen fuel cell electric vehicles, by 2030.

LCT-C2: Bicycling and Micromobility. Encourage bicycling and micromobility as an alternative to vehicular travel.

LCT-C3: Walking. Encourage walking as an alternative to vehicle use.

LCT-C4: Safe Routes to School. Continue to support the Safe Routes to School Program and strive to increase bicycling, walking, carpooling (especially in a ZEV), and taking public transit to school.

LCT-C5: Public Transit. Support and promote public transit.

LCT-C6: Employee Trip Reduction. Reduce vehicle miles traveled commuting to work.

LCT-C7: Vehicle Idling. Encourage drivers and autonomous vehicles to limit vehicle idling through public outreach and engagement campaigns

LCT-C8: Smart Growth Development. Promote land use and development policies that prioritize infill housing and mixed-use development near commercial services and transit facilities. Achieve multifamily housing development on housing opportunity sites identified in the Town's Housing Element 2023-2031 and apply existing inclusionary requirements for units affordable to lower-income households as applicable.

LCT-C9: Zero Emission Landscape Equipment. Adopt an ordinance to require the use of zero emission landscape and small off-road equipment instead of gasoline and diesel-powered equipment in all residential and commercial areas.

LCT-M1: Zero Emission Town Vehicles. Purchase or lease zero-emission vehicles for the Town fleet whenever feasible and when not, the most fuel-efficient models available. Achieve a 100% electric light duty vehicle fleet by 2030.

LCT-M2: Low Carbon Fuels. Use low-carbon fuel such as renewable diesel as a transition fuel in the Town's fleet and encourage the Town's service providers and joint powers agencies to do the same until vehicles are replaced with zero-emission vehicles.

LCT-M3: Town Employee Commute. Provide Town employees with incentives and/or reduce barriers to drive electric vehicles and use alternatives to single occupant auto commuting, such as discounted EV charging, transit and e-bike discounts and subsidies, secure bicycle

facilities, showers and changing facilities, ridesharing services, vanpools, emergency ride home service, flexible schedules, and telecommuting when practicable.

LCT-M4: Municipal Zero Emission Landscape Equipment and Small Off-Road Engines. Replace all gas-powered leaf blowers, mowers, brush cutters, hedgers, saws, and other landscape equipment and small off-road engines, including generators and pressure washers, with zero emission equipment.

RE-C1: Renewable Energy Generation and Storage. Accelerate installation of residential and commercial solar and other renewable energy systems and energy storage systems.

RE-C2: GHG-Free Electricity. Encourage residents and businesses to switch to 100% renewable electricity (MCE Deep Green, MCE Local Sol, and PG&E Solar Choice) through engagement campaigns and partner agency incentives and work with MCE Clean Energy to assure that it reaches its goal to provide electricity that is 95% GHG-free by 2022. Target 15% of the electricity load to be Deep Green in 2030.

RE-C3: Building and Appliance Electrification. Accelerate electrification of building systems and appliances that currently use natural gas, including heating systems, hot water heaters, stoves, ranges, and clothes dryers.

RE-C4: Innovative Technologies. Investigate and pursue innovative technologies such as micro-grids, battery storage, and demand-response programs that will improve local resilience and the electric grid's resiliency and help to balance demand and renewable energy production in cooperation with local and regional partners such as MCE and PG&E, as feasible.

RE-M1: Municipal 100% Renewable Electricity. Install solar energy systems at all municipal buildings and facilities where feasible and investigate and pursue innovative technologies such as battery storage and demand response programs for them. Where feasible, replace natural gas appliances/equipment with electric and electrify all Town buildings and facilities, where feasible. Continue to purchase 100% renewable energy for Town buildings, facilities, and vehicles through programs such as MCE Deep Green.

EE-C1: Energy Efficiency Programs. Promote and expand participation in residential and commercial energy efficiency programs.

EE-C2: Energy Audits. Investigate requiring energy audits for residential and commercial buildings at time of sale or major remodel. Requirements could include identification of electrification and energy efficiency opportunities and supporting programs could connect building owners to potential rebates and financing options.

EE-C3: Cool Pavement and Roofs. Use reflective, high albedo material for roadways, parking lots, sidewalks, and cool roofs to reduce the urban heat island effect and save energy.

EE-C4: Green Building Reach Code. Adopt a green building ordinance for new and remodeled commercial and residential projects that requires green building methods, materials, and

efficiency above the State building and energy codes. Consider adoption of low embodied-carbon concrete standards similar to those adopted by the County.

EE-C5: Streamline Permit Process and Provide Technical Assistance: Analyze current green building permit and inspection process to eliminate barriers and provide technical assistance to ensure successful implementation of green building requirements. Work countywide to make it easier for contractors and building counter staff to simplify applications and identify incentives.

EE-C6: Sustainable Building Materials: Study alternatives and draft regulations that require use of Forest Stewardship Council certified material in new constructions, major remodels, and outdoor use and that prohibit use of non-certified old-growth and other materials.

EE-M1: Public Lighting: Replace remaining inefficient street, parking lot, and other outdoor lighting with LED fixtures.

EE-M2: Energy Efficiency Audit and Retrofits in Town Buildings: Work with the Marin Energy Management Team to identify and implement energy efficiency projects in municipal buildings and facilities and electrification of existing building systems and equipment that use natural gas.

EE-M3: Energy Conservation in Town Buildings: Reduce energy consumption through behavioral and operational changes.

WR-C1: Commercial Organic Waste. Work with Zero Waste Marin, the Town's waste hauler, and nonprofits such as Extra Food to divert commercial organic waste from the landfill through recycling, composting, and participation in waste-to-energy and food recovery programs.

WR-C2: Residential Organic Waste. Work with Zero Waste Marin, the Town's waste hauler, and other organizations to educate and motivate residents to utilize curbside collection services and home composting for food waste.

WR-C3: Construction & Demolition and Self-Haul Waste. Require all loads of construction & demolition debris and self-haul waste to be processed for recovery of materials as feasible. Investigate creation of an ordinance requiring deconstruction of buildings proposed for demolition or remodeling when materials of significant historical, cultural, aesthetic, functional or reuse value can be salvaged.

WR-C4: Mandatory Waste Diversion. Adopt an ordinance requiring all commercial and residential accounts to subscribe to and fully participate in waste diversion activities, including recycling and organics collection provided by the Town's waste hauler. Consider including phased implementation of the ordinance, penalties, and practical enforcement mechanisms.

WR-C5: Waste Processing Franchise Agreement and Infrastructure. Review and revise the Town's franchise agreement with its waste hauler to ensure adequate recycling and

composting capacity is available and waste reduction and diversion targets are met. Ensure organic waste collection service (including green waste, food waste, fibers, and manure) that complies with SB 1383 regulations is provided to all residents and businesses. Conduct a feasibility study (including cost estimates and estimated GHG reduction metrics) and consider investing in new solid waste processing infrastructure to remove recoverable materials (recycling and organics) from the waste stream and reduce contamination. Require regular residential and commercial waste audits and waste characterization studies to identify opportunities for increased diversion and to track progress in meeting targets.

WR-C6: Extended Producer Responsibility. Encourage the State to regulate the production and packaging of consumer goods and take-back programs. Encourage on-demand product and food delivery services to reduce packaging waste and investigate requirements and incentives for same through ordinance or engagement campaigns.

WR-C7: Inorganic Waste. Promote reuse, repair, and recycling of inorganic materials, and encourage reduced use of packaging and single use items through engagement campaigns.

WR-M1: Waste from Town Operations. Increase opportunities to reduce waste at Town facilities.

WC-C1: Community Water Use. Reduce indoor and outdoor water use in residential and commercial buildings and landscaping.

WC-M1: Municipal Water Use. Reduce indoor and outdoor water use in municipal facilities and operations.

S-C1: Urban Forest. Increase carbon sequestration and improve air quality and natural cooling through expansion and enhancement of green spaces and increasing appropriate (e.g., native, drought-resistant, fire resilient) tree cover, other vegetation, and healthy soils in Tiburon.

S-C2: Carbon Sequestration. Increase carbon sequestration in developed landscapes and open/natural areas.

S-C3: Carbon Offsets. Reduce the impact of greenhouse gas emissions through the purchase of high quality, well-vetted and verifiable carbon offsets.

S-C4: Building Materials. Decrease GHG emissions associated with building materials and increase the use of building materials with the highest potential for carbon storage.

CE-C1: Community Education. Work with community-based organizations, such as Resilient Neighborhoods, to educate and motivate community members to start or continue to reduce GHG emissions in their homes, businesses, transportation mode choices, and other activities, and increase community resilience through community-building activities.

CE-C2: Community Outreach. Implement a communitywide public outreach and behavior change campaign to engage residents, businesses, and consumers around the impacts of

climate change and the ways individuals and organizations can reduce their GHG emissions and create a more sustainable, resilient, and healthier community.

CE-C3: Advocacy. Advocate at the regional, state, and federal levels for policies and actions that support the rapid transition to GHG-free energy sources, electrification of buildings and the transportation fleet, and other impactful measures to sharply reduce greenhouse gas emissions.

CE-C4: Green Businesses. Encourage local businesses to participate in the Marin County Green Business Program.

CE-C5: Innovation and Economic Development. Participate in local economic development and innovation working groups to explore public-private partnerships and to develop ways to decarbonize the local economy while spurring sustainable enterprise and equitable employment.

3.7.3 GREENHOUSE GAS INVENTORIES

State of California Inventory

Based on the CARB annual Statewide GHG emission inventory, in 2017, emissions Statewide were 424.1 million metric tons (MMT) of CO_2e, 17.3 MMT CO_2e lower than 2015 levels, and just below the 2020 target of 431 MMT CO_2e.[10] The largest source of GHG emissions in California is the transportation sector. Direct emissions from the tailpipe of cars, trucks, off-road transportation sources, intrastate aviation, and other sources, accounted for 40 percent of the inventory in 2017. Emissions from the remaining sectors in the 2017 inventory are as follows: industrial sector (21 percent); electricity sector (15 percent); commercial and residential fuel combustion (10 percent); agricultural sector (8 percent); high global warming potential (five percent); and recycling and waste (2 percent).

Bay Area Inventory

The BAAQMD estimated that in 2011, 86.6 MMT of CO_2e GHGs were emitted by the San Francisco Bay Area (83.9 MMT of CO_2e were emitted within the Bay Area Air District and 2.7 MMT of CO_2e were indirect emissions from imported electricity).[11] In the Bay Area, fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of the Bay Area's GHG emissions, accounting for 39.7 percent of the Bay Area's 86.6 MMT of GHG emissions in 2011. Industrial and

[10] California Air Resources Board (CARB). 2019. California's 2000-2017 Greenhouse Gas Emissions Inventory, 2019 Edition. 2000-2017 Trends Figure Data. August.

[11] Bay Area Air Quality Management District (BAAQMD). 2015. Bay Area Emissions Inventory Summary Report: Greenhouse Gases Base Year 2011. January. Website: http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/Emission%20Inventory/BY2011_GHGSummary.ashx?la=en, Accessed April 19, 2020.

commercial sources were the second largest contributors of GHG emissions with about 35.7 percent of total emissions. Domestic sources (e.g., home water heaters, furnaces, etc.) account for about 7.7 percent of the Bay Area's GHG emissions, and energy production accounted for 14.0 percent. Off-road equipment and agriculture make up the remainder with approximately 1.5 percent and 1.5 percent, respectively, of the total Bay Area 2011 GHG emissions, respectively. The inventory is broken down by county, where Marin County emissions accounted for approximately 2.77 percent of total emissions within the Bay Area (2.4 MMT of CO_2e). As in many Bay Area counties, most Marin County emissions are from transportation (cars and trucking), accounting for approximately 56.3 percent of the county's emissions. About 40 percent of the entire Bay Area inventory is attributable to transportation.

Town of Tiburon

The GHG emissions generated by activities taking place in Tiburon have been quantified in the GHG inventory prepared by the Tiburon CAP. The Tiburon CAP quantified GHG emissions for each year from 2005 through 2020. In 2005, the activities taking place by the Tiburon community resulted in approximately 60,573 MT CO_2e. In 2020, those activities resulted in approximately 43,307 MT CO_2e, which equates to a reduction of 29 percent from 2005 levels. This means that the Town has met the State goal to reduce emissions 15 percent below the 2005 baseline by 2020.

The community inventory tracks emissions in seven sectors:

- **Built Environment - Electricity** sector represents emissions generated from the use of electricity in homes and commercial and public buildings and facilities, and electric vehicle charging in Tiburon.
- The **Built Environment – Natural Gas** sector represents emissions generated from the use of natural gas in homes and commercial and public buildings and facilities in Tiburon.
- The **Transportation** sector includes tailpipe emissions from passenger vehicle trips originating and/or ending in Tiburon, a share of tailpipe emissions generated by medium and heavy-duty vehicles travelling on Marin County roads, and emissions from transit vehicles when operating within the Town limits.
- The **Waste** sector represents fugitive methane emissions that are generated over time as organic material decomposes in the landfill.
- The **Off-Road** sector represents emissions from the combustion of gasoline and diesel from the operation of off-road vehicles and equipment used for construction and landscaping.
- The **Water** sector represents emissions from energy used to pump, convey, treat, and distribute potable water from the water source to water users in Tiburon.

- The **Wastewater** sector represents stationary, process, and fugitive GHGs that are created during the treatment of wastewater generated by the community and emissions created from energy used to process wastewater.

3.7.4 THRESHOLDS OF SIGNIFICANCE

According to the CEQA Guidelines Appendix G, the General Plan 2040 will have a significant impact related to GHG emissions if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

Most individual projects do not generate sufficient GHG emissions to create a project-specific impact through a direct influence on climate change. However, physical changes caused by a project can contribute incrementally to cumulative effects that are significant, even when individual changes resulting from a project are limited. The issue of climate change typically involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects per CEQA Guidelines Section 15064(h)(1).

The BAAQMD CEQA Guidelines have identified emissions-based thresholds that apply to the evaluation of General Plans. These thresholds are based on meeting the AB 32 GHG emissions reductions targets. The BAAQMD adopted an efficiency measurement that can be applied to the evaluation of plans in Bay Area jurisdictions. For General Plans, the BAAQMD provides two approaches to determining significance of GHG emissions for plans. The two approaches are as follows:

1. Consistency with a qualified GHG reduction plan; or
2. Meets the efficiency plan threshold of 6.6 MT CO_2e per service population per year.

Regarding Approach 1, according to the BAAQMD Guidelines, a qualified GHG reduction plan is one that includes the following elements: quantifying communitywide GHG emissions for an existing baseline level and projected GHG emissions from a business-as-usual, no-plan, forecast scenario of the horizon year.

The Tiburon CAP is a qualified GHG reduction plan. The CAP was recently adopted (in September 2022) and accounts for the most recent Housing Element and provision of additional housing units and growth within Tiburon, which ensures that the growth associated with the General Plan 2040 growth was accounted for within the CAP. The CAP

quantified communitywide GHG emissions for an existing baseline level[12], and projected GHG emissions from a business-as-usual, no-plan, forecast scenario for future years 2030 and 2045. The CAP also provides GHG reduction strategies that would allow the Tiburon to meet the aggressive state-level GHG targets associated with years 2030 and 2045. Therefore, the following analysis relies on BAAQMD Approach 1 to evaluate whether the General Plan 2040 would generate GHG emissions that would create a significant impact on the environment, under Impact 3.7-1. An analysis of the Project's consistency with other planning documents is also provided under Impact 3.7-2.

3.7.5 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

Impact 3.7-1 **Development facilitated by the General Plan could directly or indirectly generate GHG emissions that may have a significant impact on the environment.**

This impact discussion addresses the Project's consistency with the adopted Tiburon CAP.

Climate Action Plan Consistency

The General Plan 2040 would be consistent with the Tiburon CAP, which is considered a qualified GHG reduction plan. The CAP describes how consistency with the GHG reduction measures contained within the CAP would ensure that the Tiburon would achieve the state-level GHG reduction targets for years 2030 and 2045. Specifically, the CAP describes how the Town would meet the state-level year 2030 target of mitigating and sequestering GHG emissions to 50% below the Town's GHG emissions in year 1990, and the state-level year 2045 target of carbon neutrality.

The CAP was recently adopted (in September 2022) and accounts for the most recent Housing Element (i.e. the proposed 6th Cycle Housing Element) and provision of additional housing units and growth within Tiburon. Therefore, since the General Plan 2040 was based on the most recent Housing Element, development from the General Plan 2040 was accounted for within the projections contained within the CAP. Therefore, implementation of the GHG reduction measures contained within the CAP would ensure that the proposed General Plan 2040 would be consistent with the future state-level GHG reduction targets.

Specifically, the Town would be required to comply with the CAP's Low Carbon Transportation Strategies, such as Strategy LCT-C1 (Zero Emission Vehicles), which requires the Town to Take actions that will result in at least 45% of registered passenger vehicles in Tiburon and Marin County to be zero emission vehicles (ZEVs), including plug-in electric vehicles (EVs) and hydrogen fuel cell electric vehicles, by 2030. Further, the Town would be required to implement other Low Carbon Transportation Strategies, including Strategy LCT-C3 (Walking), which encourages walking as an alternative to vehicle use, and Strategy LCT-C5

[12] The CAP included baseline GHG emissions inventories for all years 2005 through 2020.

(Public Transit), which supports and promotes public transit. Moreover, Strategy LCT-M1 (Zero Emission Town Vehicles) requires the Town to purchase or lease zero-emission vehicles for the Town fleet whenever feasible and when not, the most fuel-efficient models available. Achieve a 100% electric light duty vehicle fleet by 2030.

The Town would also be required to comply with the CAP's other strategies, which include Renewable Energy and Electrification, Energy Efficiency and Green Building, Waste Reduction, Water Conservation, Sequestration, and Community Engagement Strategies. For example, Strategy RE-C1 (Renewable Energy Generation and Storage) would require the Town to accelerate installation of residential and commercial solar and other renewable energy systems and energy storage systems. Strategy RE-C3 (Building and Appliance Electrification) would require the Town to accelerate electrification of building systems and appliances that currently use natural gas, including heating systems, hot water heaters, stoves, ranges, and clothes dryers. Strategy RE-M1 (Municipal 100% Renewable Electricity) would require the Town to install solar energy systems at all municipal buildings and facilities where feasible and investigate and pursue innovative technologies such as battery storage and demand response programs for them, and where feasible, replace natural gas appliances/equipment with electric and electrify all Town buildings and facilities, where feasible. This strategy also requires the Town to continue to purchase 100% renewable energy for Town buildings, facilities, and vehicles through programs such as MCE Deep Green.

Strategy EE-C6 (Sustainable Building Materials) requires the Town to study alternatives and draft regulations that require use of Forest Stewardship Council certified material in new constructions, major remodels, and outdoor use and that prohibit use of non-certified old-growth and other materials. Strategy EE-M2 (Energy Efficiency Audit and Retrofits in Town Buildings) requires the Town to work with the Marin Energy Management Team to identify and implement energy efficiency projects in municipal buildings and facilities and electrification of existing building systems and equipment that use natural gas. Further, Strategy WR-C1 (Commercial Organic Waste) requires the Town to work with Zero Waste Marin, the Town's waste hauler, and nonprofits such as Extra Food to divert commercial organic waste from the landfill through recycling, composting, and participation in waste-to-energy and food recovery programs.

Strategy WR-C4 (Mandatory Waste Diversion) requires the Town to adopt an ordinance requiring all commercial and residential accounts to subscribe to and fully participate in waste diversion activities, including recycling and organics collection provided by the Town's waste hauler. Consider including phased implementation of the ordinance, penalties, and practical enforcement mechanisms.

Other notable CAP strategies include Strategy S-C2 (Carbon Sequestration), which requires the Town to increase carbon sequestration in developed landscapes and open/natural areas; Strategy CE-C1 (Community Education), which requires the Town to work with community-

based organizations, such as Resilient Neighborhoods, to educate and motivate community members to start or continue to reduce GHG emissions in their homes, businesses, transportation mode choices, and other activities, and increase community resilience through community-building activities.

Overall, many of the strategies contained within the CAP overlap with policies and programs contained within the proposed General Plan 2040. For example, proposed General Plan 2040 Policy S-2 requires the Town to accelerate the conversion to renewable energy sources, which is consistent with CAP strategies such as RE-C1, which requires the Town to accelerate installation of residential and commercial solar and other renewable energy systems and energy storage systems. A further example is proposed General Plan 2040 Policy S-I, which requires the Town to give priority to electric and zero emissions vehicles, as feasible, when replacing vehicles in the Town's fleet with the goal of achieving a zero-emissions fleet by 2030. This policy is similar to the CAP Strategy LCT-M1, which requires the Town to purchase or lease zero-emission vehicles for the Town fleet whenever feasible and when not, the most fuel-efficient models available, and to achieve a 100% electric light duty vehicle fleet by 2030.

Overall, the CAP has been prepared consistent with the projections contained in the proposed General Plan 2040, and the CAP has been prepared as a qualified GHG reduction plan. However, as provided under Impact 3.14-2 of Section 3.14: Transportation of this Draft EIR, the General Plan 2040's VMT per resident would exceed the threshold of 15 percent below the regional average. Therefore, out of an abundance of caution, impacts related to proposed General Plan 2040 GHG emissions would be ***significant and unavoidable*** with no feasible mitigation measures.

Level of Significance before Mitigation
Potentially Significant

Mitigation Measures
None Feasible

Level of Significance after Mitigation
Significant and Unavoidable

Impact 3.7-2 **Development facilitated by the General Plan would not conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions.**

The following plans have been adopted and are applicable to development in the Planning Area:

ARB 2017 Climate Change Scoping Plan
The 2017 Climate Change Scoping Plan includes examples of plan-level GHG reduction actions that could be implemented by local governments to support the State's climate goals.

The examples include local municipal code changes, zoning changes, or policy directions that could apply broadly to the community within the General Plan 2040 or CAP Planning Area. The examples also include mitigation measures that could be required of individual projects under CEQA, if feasible, when the local jurisdiction is the lead agency.

The General Plan 2040contains the various policies and programs to support the State's climate goals. For example, Policy S-1 requires the Town to mitigate the impacts of climate change by reducing community greenhouse gas emissions. Policy S-3 requires the Town to encourage energy efficiency improvements in existing residential and commercial buildings to reduce energy use. In addition, the 2022 California Code of Regulations Title 24 Part 6 standards also now require that all homes built in California shall have zero-net-energy use, which is achieved through energy-efficiency measures as well as required rooftop solar photovoltaic systems and electric appliance and electric-ready requirements. It should also be noted that, while not applicable for the proposed General Plan 2040, the 2022 California Code of Regulations Title 24 Part 6 standards also apply to nonresidential buildings and require a variety of energy efficiency measures to be implemented during construction of the structures to reduce energy as usage as well as air emissions.

Additionally, as stated in the CAP, the Town Council adopted a goal to reduce community-wide GHG emissions to 50% below 1990 levels by year 2030, and to achieve carbon neutrality by year 2045. This is consistent with the state-wide GHG reduction goals for future years.

As described above, the General Plan 2040 and CAP include GHG reduction actions similar to those recommended in the 2017 Climate Change Scoping Plan. Future projects would be required to comply with State standards for new construction as well as policies and programs of the General Plan 2040 that aim to reduce GHG emissions.

Plan Bay Area 2050

To achieve the ABAG and MTC sustainable vision for the San Francisco Bay Area, the Plan Bay Area 2050 land use concept plan concentrates most new population and employment growth in and around Priority Development Areas (PDAs). Under this Plan, PDAs are described as areas generally near existing job centers or frequent transit that are locally identified (i.e., identified by towns, cities or counties) for housing and job growth. Plan Bay Area 2050's Growth Geographies identify a mix of locally identified Priority Development Areas, areas near high- quality transit and areas of high opportunity as communities poised to accommodate additional growth. To accommodate new families and meet the needs of those living in the Bay Area today, Plan Bay Area 2050 plans for sufficient housing growth (i.e., growth in the number of homes available) to ensure that strong job growth is not met with an increase in traffic congestion and long-distance commuters traveling to the Bay Area

from outside of the region. In total, the region would need to build another 1.4 million new homes by 2050 to meet forecasted future demand.[13]

Together, the North Bay counties of Marin, Napa, Sonoma and Solano are expected to be home to less than 10% of new households and jobs, as relatively limited job centers and transit options coupled with wildfire risk make these counties less suited for growth. In fact, Marin County is projected to see a minor net loss in jobs as its population continues to age and exit the workforce.[14]

Marin County is anticipated to grow to 146,000 households by 2050.[15] Between 2015 and 2050, just 3% of all new households in the Bay Area are anticipated to be located in Marin County.[16] Buildout of the proposed General Plan 2040 could yield up to 916 new residential units. As such, the General Plan 2040 would promote implementation of the Plan Bay Area 2050 by focusing growth in existing urban areas, without expanding suburban sprawl. In addition, as described above, the policies and programs of the General Plan 2040 encourage the use of alternative modes of travel and reduce dependence on auto use, consistent with Plan Bay Area's vision.

BAAQMD 2017 Clean Air Plan

The BAAQMD 2017 Clean Air Plan contains control measures that focus primarily on reducing GHG emissions across the following sectors: stationary sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, water, and super-GHG pollutants. Table 3.7-4 identifies the control measures from the 2017 Clean Air Plan that are relevant to the Tiburon and the General Plan 2040's consistency with those measures.

[13] Association of Bay Area Governments and Metropolitan Transportation Commission, 2021. Plan Bay Area 2050: A Vision for the Future. Released October 1. Available: https://planbayarea.org/finalplan2050. Accessed March 1, 2023.

[14] Association of Bay Area Governments and Metropolitan Transportation Commission, 2021. Plan Bay Area 2050: A Vision for the Future. Released October 1. Available: https://planbayarea.org/finalplan2050. Accessed March 1, 2023.

[15] Association of Bay Area Governments and Metropolitan Transportation Commission, 2021. Plan Bay Area 2050: A Vision for the Future. Marin County Factsheet. Released October 1. Available: https://planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_Final_Marin_County_Factsheet_012822_4.pdf. Accessed March 1, 2023.

[16] Association of Bay Area Governments and Metropolitan Transportation Commission, 2021. Plan Bay Area 2050: A Vision for the Future. Marin County Factsheet. Released October 1. Available: https://planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_Final_Marin_County_Factsheet_012822_4.pdf. Accessed March 1, 2023.

TABLE 3.7-3: TIBURON GENERAL PLAN 2040 CONSISTENCY WITH 2017 CLEAN AIR PLAN

2017 BAY AREA CLEAN AIR PLAN CONTROL MEASURE	CONSISTENT WITH CONTROL MEASURE?	DISCUSSION
TR2 (TRIP REDUCTION PROGRAMS): ENCOURAGE TRIP REDUCTION POLICIES AND PROGRAMS IN LOCAL PLANS. ENCOURAGE LOCAL GOVERNMENTS TO REQUIRE MITIGATION OF VEHICLE TRAVEL AS PART OF NEW DEVELOPMENT APPROVAL, TO ADOPT TRANSIT BENEFITS ORDINANCES IN ORDER TO REDUCE TRANSIT COSTS TO EMPLOYEES, AND TO DEVELOP INNOVATIVE WAYS TO ENCOURAGE RIDESHARE, TRANSIT, CYCLING, AND WALKING FOR WORK TRIPS.	Yes	The General Plan includes the following policies to reduce vehicle miles traveled: • Policy C-23. Vehicle Emissions Reduction. Encourage the reduction of the number of single-occupant vehicle trips and cumulative emissions that result from auto use through implementation of Mobility Element policies. • Policy S-1. Greenhouse Gas Emission Reductions. Mitigate the impacts of climate change by reducing community greenhouse gas emissions. • Policy M-65. Land Use and Transportation Priorities to Reduce VMT. Support and prioritize land uses and transportation provisions that help reduce VMT. • Policy M-67. Car Sharing and Bicycle Sharing. Support car sharing and bicycle sharing opportunities in Downtown Tiburon. Programs: • Program C-h. Participate in Emission Reduction Efforts. Participate in efforts to voluntarily reduce activities that pollute on Spare the Air days and help publicize Spare the Air day activities. • Program C-i. Reduce Particulate Emissions. • Promote the reduction of particulate matter from construction sites, roads, parking lots, and other sources through requiring development projects to implement best management practices (BMPs). • Program C-k. Emission Reductions. Require the use of feasible control measures to reduce PM10, NOx, and diesel particulate matter related to development, including construction and operational phases. • Program C-l. Zero Emission Landscape and Small Off-Road Equipment. Consider adoption of an ordinance requiring the use of zero emission landscape and small off-road equipment instead of gasoline and diesel-powered equipment in all residential and commercial areas. • Program S-a Emissions Reduction Targets. Implement strategies to achieve reductions in greenhouse gas emissions at least 50 percent below 1990 levels by 2030, and to support the State's goal to achieve zero net emissions statewide by 2045.
TR9 (BICYCLE AND PEDESTRIAN ACCESS FACILITIES): ENCOURAGE PLANNING FOR BICYCLE AND PEDESTRIAN FACILITIES IN LOCAL PLANS.	Yes	The General Plan 2040 includes the following policies related to bicycle and pedestrian facilities: • Policy M-36. Bicycle Safety for Children. To reduce single-child automobile trips to schools, the Town shall support infrastructure improvements and programs that encourage children to bike and/or walk safely to school or ride a bus. This includes installation of sidewalks in critical areas where feasible. • Policy M-37. Countdown Pedestrian Signals. The Town supports, where warranted, the replacement by Caltrans of pedestrian traffic

2017 BAY AREA CLEAN AIR PLAN CONTROL MEASURE	CONSISTENT WITH CONTROL MEASURE?	DISCUSSION
		signals with “countdown-style" pedestrian signals, which inform pedestrians of the number of seconds remaining to cross safely. • Policy M-39. Bike Facilities. Bicycle facilities, including bike racks, shall be included as part of new public and commercial projects, particularly in Downtown Tiburon. • Policy M-40. Pedestrian Streets. Establish pedestrian routes, particularly for school children, for all neighborhoods where feasible and appropriate. Require that pedestrian-oriented streets be designed to provide a pleasant environment for walking and other desirable uses of public space, including such elements as shade trees, plantings, and wayfinding signage where appropriate. Pedestrian routes shall include safe crossings at major intersections. • Policy M-42. Bicycle and Pedestrian Master Plan. In developing capital improvement budgets, the Town shall use the Bicycle and Pedestrian Master Plan as a guide for prioritizing bicycle and pedestrian improvements. New development shall be consistent with applicable provisions of the Bicycle and Pedestrian Master Plan. Programs: • Program M-i. Bicycle and Pedestrian Master Plan. Review and update the Bicycle and Pedestrian Master Plan periodically and revise the list of improvements and actions called for in the Master Plan when implementation has occurred, and/or when conditions warrant.
EN2 (DECREASE ELECTRICITY DEMAND): WORK WITH LOCAL GOVERNMENTS TO ADOPT ADDITIONAL ENERGY-EFFICIENCY POLICIES AND PROGRAMS.	Yes	The General Plan 2040 includes the following policies to decrease electricity demand: • Policy S-2. Renewable Energy. Accelerate the conversion to renewable energy sources. • Policy S-3. Building Energy Efficiency. Encourage energy efficiency improvements in existing residential and commercial buildings to reduce energy use. • Program S-j. Energy Efficiency Programs. Promote programs and incentives to property owners to improve energy efficiency. Consider requiring energy audits at time of building sale or major remodel. Programs: • Program S-f. Building and Appliance Electrification. Consider building regulations which preclude gas appliances and infrastructure in new buildings and regulations and require gas appliances to be replaced with high-efficiency electric at burnout. • Program S-i. Green Building Regulations. Consider adopting green building regulations for new construction and building remodels and additions that exceed minimum State building and energy code requirements.
BL4 (URBAN HEAT ISLAND MITIGATION):	Yes	The General Plan 2040 includes the following policies and programs to encourage local governments to develop green buildings (which could include cool roofing techniques)

2017 BAY AREA CLEAN AIR PLAN CONTROL MEASURE	CONSISTENT WITH CONTROL MEASURE?	DISCUSSION
PERFORM OUTREACH TO CITIES AND COUNTIES TO MAKE THEM AWARE OF COOL ROOFING AND PAVING TECHNIQUES.		• Policy S-8. Green Building in Town Facilities. Apply green building principles to the design, construction, and operation of new Town and Town-sponsored facilities to provide long-term cost savings and to serve as an example for the community. • Policy S-3. Building Energy Efficiency. Encourage energy efficiency improvements in existing residential and commercial buildings to reduce energy use. Programs: • Program S-I. Green Building Regulations. Consider adopting green building regulations for new construction and building remodels and additions that exceed minimum State building and energy code requirements. • Program S-j. Energy Efficiency Programs. Promote programs and incentives to property owners to improve energy efficiency. Consider requiring energy audits at time of building sale or major remodel.
NW2 (URBAN TREE PLANTING): **ENCOURAGE LOCAL GOVERNMENTS TO ADOPT A MUNICIPAL TREE PLANTING ORDINANCE.**	Yes	The General Plan 2040 includes the following policies to encourage local governments to adopt a municipal tree planning ordinance: • Policy C-14. Tree Protection. Preserve protected trees, as defined in the Municipal Code, tree stands, and tree clusters to the maximum extent feasible. Programs: • Program C-b. Tree Preservation. Consider revising and expanding the Tiburon Tree Ordinance to provide protection of both individual trees and native woodlands. Factors to consider in expanding the current ordinance include the importance of protecting smaller sapling trees and balancing their protection against those of designated "protected trees", defining critical management guidelines necessary to maintain healthy woodlands, and methods to encourage natural regeneration in woodland habitats.
WA3 (GREEN WASTE DIVERSION): **FACILITATE ADOPTION OF LOCAL ORDINANCES AND PROGRAMS TO REDUCE THE AMOUNT OF GREEN WASTE GOING TO LANDFILLS.**	Yes	The General Plan 2040 includes the following policies to reduce the amount of green waste going to landfills: • Policy S-5. Waste Diversion Targets. Strive to meet or exceed waste diversion and food recovery targets set by the state. Programs: • Program S-m. Business Waste Management Plans. Require that businesses prepare and implement waste management plans to maximize recycling and food recovery and minimize disposal of organic waste where appropriate as a condition of approval of use permits. • Program S-n. Organic Waste Reduction. Work with the Town's waste hauler and Zero Waste Marin to develop and implement programs to educate and motivate residents and business owners to increase recycling of materials and food recovery and reduce disposal of organic waste.

2017 BAY AREA CLEAN AIR PLAN CONTROL MEASURE	CONSISTENT WITH CONTROL MEASURE?	DISCUSSION
WA4 (RECYCLING AND WASTE REDUCTION): PROMOTE COMMUNITY-WIDE ZERO WASTE GOALS AND RECYCLING OF CONSTRUCTION AND DEMOLITION MATERIALS.	Yes	The General Plan 2040 includes the following policies to promote community-wide zero waste goals and recycling of construction and demolition materials: • Policy S. Municipal Waste Reduction. Maximize recycling, composting, reuse, waste reduction, and food recovery within municipal operations and at public parks and facilities. Programs: • Program S-o. Construction and Demolition Debris. Modify the solid waste disposal ordinance to maximize the recovery and recycling of construction debris consistent with the Marin Zero Waste model ordinance. • Program S-p. Recycling Facilities. Provide sufficient recycling and composting bins for public and staff use.
WR2 (SUPPORT WATER CONSERVATION): INCORPORATE WATER CONSERVATION BEST PRACTICES INTO LOCAL PLANNING GUIDANCE.	Yes	The General Plan 2040 includes the following policy related to water conservation: • Policy C-18. Water Conservation. Support the efforts of the Marin Municipal Water District (Marin Water) to conserve the use of water through enforcement of the Town's water conservation ordinance requiring implementation of water conservation measures. Programs: • Program C-e. Development Impacts on Water Retention. Where impervious surface construction and storm drain system installation and/or hillside stabilization (e.g., landslide repair) are proposed as part of development proposals, or wherever such stabilization is required by the Town to protect public safety, require Project applicants to analyze the impacts of these drainage pattern modifications on groundwater recharge and on downslope water wells and their yields. In the event impacts are likely, modifications to the Project, including possible downsizing, should be implemented to the extent feasible. • Program C-f. Water Conservation Ordinance. Continue to implement the Town's water conservation ordinance through the review of new development proposals involving new landscaping.

Source: Bay Area Air Quality Management District (BAAQMD). 2017 Clean Air Plan. Adopted April 19, 2017.

As demonstrated by Table 3.7-4, the General Plan 2040 is consistent with the applicable control measures of the 2017 Clean Air Plan. Future projects would be required to comply with requirements of the General Plan 2040 and Municipal Code that aim to reduce GHG emissions in the Planning Area.

In conclusion, development facilitated by the General Plan 2040 would be required to comply with requirements of the General Plan 2040 and Municipal Code to reduce GHG emissions. In addition, the Town will be required to comply with existing and new federal, State, and local statutes and regulations related to GHG emissions. Lastly, the proposed General Plan

2040 would also be consistent with the recently adopted local CAP. As demonstrated above, development facilitated by the General Plan 2040 would not conflict with the applicable plans for reducing GHG emissions and the impact would be ***less than significant***.

Level of Significance before Mitigation

Less than Significant

Mitigation Measures

None Required

Impact 3.7-3 **Development facilitated by the General Plan, in combination with past, present, and reasonably foreseeable projects, could result in significant cumulative impacts with respect to GHG emissions.**

As described above, GHG emissions related to implementation of the General Plan 2040 are not confined to a particular air basin but are dispersed worldwide and GHG emissions are widely acknowledged as a significant cumulative impact. Therefore, the analysis under Impacts 3.7-1 and 3.7-2 also address cumulative impacts.

As discussed under Impacts 3.7-1 and 3.7-2, the General Plan 2040 establishes the framework for future growth and development in Tiburon. A General Plan 2040 does not directly result in development without additional approvals. Before any development can occur in the town, it is required to be analyzed for consistency with the General Plan 2040, zoning requirements, and other applicable local and State requirements; comply with the requirements of CEQA; and obtain all necessary clearances and permits. Furthermore, existing federal, State, and local regulations and policies described throughout this section that serve to reduce communitywide GHG emissions would apply to future projects. Continued compliance with these regulations and implementation of General Plan 2040 policies would reduce the General Plan 2040's cumulative contribution to this impact.

As discussed under Impact 3.7-1 and as described in the adopted Tiburon CAP, the Town would achieve the year 2030 and 2045 State-level GHG emission targets, with implementation of the GHG emissions strategies contained in the CAP. This is necessary for the town to achieve its fair share of statewide GHG reductions in accordance with the State's long-term GHG reduction targets.

All cumulative projects would be required to comply with Town ordinances, General Plan 2040 policies, and adopted CAPs to reduce GHG emissions. Cumulative projects will also be required to comply with existing federal, State, and local regulations and policies to reduce communitywide GHG emissions. Last, cumulative projects will be required to comply with the requirements of CEQA and obtain all necessary clearances and permits. However, as described under Impact 3.7-1, out of an abundance of caution, impacts related to proposed General Plan 2040 GHG emissions would be potentially significant. Therefore, the cumulative impact would be ***significant and unavoidable*** with no feasible mitigation measures.

Level of Significance before Mitigation
Potentially Significant

Mitigation Measures
None Feasible

Level of Significance after Mitigation
Significant and Unavoidable

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3.8 HAZARDS AND HAZARDOUS MATERIALS

This section identifies existing hazards and hazardous materials sites within the Planning Area and provides an analysis of potential impacts associated with implementation of the General Plan 2040. Potential impacts are identified and mitigation measures to address potentially significant impacts are recommended, as necessary.

For the purpose of this analysis, the term "hazardous material" refers to both hazardous substances and hazardous waste. A material is defined as "hazardous" if it appears on a list of hazardous materials prepared by a federal, tribal, State, or local regulatory agency, or if it possesses characteristics defined as "hazardous" by such an agency. A "hazardous waste" is a solid waste that exhibits toxic or hazardous characteristics (i.e., ignitability, corrosivity, reactivity, and/or toxicity). Other hazards, such as potential airport-related safety hazards for people residing/working in the Planning Area, interference with an adopted emergency response plan, and exposure of people/structures to risk involving wildland fires, are also addressed in this section.

Information in this section is based, in part, on statements, data, and figures provided by the following reference materials:

- Create Tiburon 2040: Existing Conditions Report; and
- Tiburon Municipal Code.

Four comments were received during the NOP comment period in regard to hazards. One comment was received by the Department of Toxic Substances Control (DTSC). DTSC recommends the DEIR address actions to be taken for any sites impacted by hazardous waste or hazardous materials within the Planning Area, not just those found on the Cortese List. DTSC further recommends consulting with other agencies that may provide oversight to hazardous waste facilities and sites in order to determine a comprehensive listing of all sites impacted by hazardous waste or hazardous materials within the Planning Area. In addition, DTSC recommends that the following issues be evaluated:

- A State of California environmental regulatory agency such as DTSC, a Regional Water Quality Control Board (RWQCB), or a local agency that meets the requirements of Health and Safety Code section 101480 should provide regulatory concurrence that the Project sites are safe for construction and the proposed use.
- The EIR should acknowledge the potential for historic or future activities on or near the Project area to result in the release of hazardous wastes/substances. In instances in which releases have occurred or may occur, further studies should be carried out to delineate the nature and extent of the contamination, and the potential threat to public health and/or the environment should be evaluated. The EIR should also identify the mechanism(s) to initiate any required investigation and/or remediation

and the government agency who will be responsible for providing appropriate regulatory oversight.

- Due to the potential for ADL-contaminated soil, DTSC recommends collecting soil samples for lead analysis prior to performing any intrusive activities for the Project in the forthcoming EIR.
- If buildings or other structures are to be demolished on any project sites included in the proposed project, surveys should be conducted for the presence of lead-based paints or products, mercury, asbestos containing materials, and polychlorinated biphenyl caulk. Removal, demolition, and disposal of any of the above-mentioned chemicals should be conducted in compliance with California environmental regulations and policies. In addition, sampling near current and/or former buildings should be conducted in accordance with DTSC's 2006 *Interim Guidance Evaluation of School Sites with Potential Contamination from Lead Based Paint, Termiticides, and Electrical Transformers.*
- If any projects initiated as part of the proposed Project require the importation of soil to backfill any excavated areas, proper sampling should be conducted to ensure that the imported soil is free of contamination. DTSC recommends the imported materials be characterized according to DTSC's 2001 *Information Advisory Clean Imported Fill Material*.
- If any sites included as part of the proposed Project have been used for agricultural, weed abatement or related activities, proper investigation for organochlorinated pesticides should be discussed in the EIR. DTSC recommends the current and former agricultural lands be evaluated in accordance with DTSC's 2008 *Interim Guidance for Sampling Agricultural Properties (Third Revision).*

Three comment letters were received by Dorene Curtis, Julie and Seth Jacobs, and Kathy and Gerry Silverfield expressing concern about emergency evacuation routes, emergency vehicle access, and housing development in areas of wildfire risk.

3.8.1 EXISTING SETTING

Hazardous Materials and Waste

Hazardous Materials

A hazardous material is a substance or combination of substances which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either (1) cause or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating irreversible illness; or (2) pose a substantial present or potential hazard to human health and safety, or the environment when improperly treated, stored, transported, or disposed of. Hazardous materials are mainly present because of industries involving chemical byproducts from manufacturing, petrochemicals, and hazardous building materials.

Hazardous Waste

Hazardous waste is the subset of hazardous materials that have been abandoned, discarded, or recycled and is not properly contained, including contaminated soil or groundwater with concentrations of chemicals, infectious agents, or toxic elements sufficiently high to increase human mortality or to destroy the ecological environment. If a hazardous material is spilled and cannot be effectively picked up and used as a product, it is considered to be hazardous waste. If a hazardous material site is unused, and it is obvious there is no realistic intent to use the material, it is also considered to be a hazardous waste. Examples of hazardous materials include flammable and combustible materials, corrosives, explosives, oxidizers, poisons, materials that react violently with water, radioactive materials, and chemicals.

Transportation of Hazardous Materials

The transportation of hazardous materials within California is subject to various federal, State, and local regulations. The Town has no direct authority to regulate the transport of hazardous materials on State highways or rail lines. Transportation of hazardous materials by truck and rail is regulated by the U.S. Department of Transportation (DOT). DOT regulations establish criteria for safe handling procedures. It is illegal to transport explosives or inhalation hazards on any public highway not designated for that purpose, unless the use of the highway is required to permit delivery, or the loading of such materials (California Vehicle Code Section 31602(b), 32104(a)). The California Highway Patrol (CHP) designates through routes to be used for the transportation of hazardous materials. Transportation of hazardous materials is restricted to these routes except in cases where additional travel is required from that route to deliver or receive hazardous materials to and from users.

Hazardous Sites

EnviroStor Data Management System

The Department of Toxic Substances Control (DTSC) maintains the *EnviroStor Data Management System*, which provides information on hazardous waste facilities (both permitted and corrective action) as well as any available site cleanup information. This site cleanup information includes: Federal Superfund Sites (NPL), State Response Sites, Voluntary Cleanup Sites, School Cleanup Sites, Corrective Action Sites, Tiered Permit Sites, and Evaluation / Investigation Sites. The hazardous waste facilities include: Permitted–Operating, Post-Closure Permitted, and Historical Non-Operating.

There are two listings in the Planning Area listed in the EnviroStor database. Table 3.8-1 provides the listings located within the Planning Area. A discussion of each of the sites follows the table.

TABLE 3.8-1: TIBURON SITE CLEANUP AND HAZARDOUS FACILITIES LIST (ENVIROSTOR)

NAME	STATUS	PROJECT TYPE	ADDRESS
Fort McDowell	Active	State Response	Angel Island
Naval Net Depot	No Further Action	Military Evaluation	Juanita Lane, Tiburon

SOURCE: California Department of Toxic Substances Control, 2023. EnviroStor Database. Available: https://www.envirostor.dtsc.ca.gov/public/. Accessed: January 27, 2023.

Fort McDowell/Angel Island

The Fort McDowell/Angel Island site is identified as a Formerly Used Defense Site (FUDS) and is designated as a State Response Site with a status of Active in EnviroStor. According to the site history information in EnviroStor, Fort McDowell is a former Department of Defense site comprising 640 (really 740 acres) and located on Angel Island in Marin County.[1] Fort McDowell was established in 1850. The island was used by the U.S. Army as a discharge and replacement depot and as an installation for San Francisco harbor defenses. In 1941, the northeast corner of the island was designated the North Garrison of Fort McDowell and was used for troop barracks and a prisoner-of-war camp. A U.S. Marine Health Center was developed to quarantine facilities and disinfect ships in Ayala Cove. Fort McDowell was also utilized as a processing center and quarantine for soldiers returning from overseas bases for many years. On September 20, 1946, the site was declared surplus and over a period of years the ownership transferred to U.S. Department of the Interior with management by the Bureau of Land Management. In 1954, a NIKE missile base was established at Point Blunt for defense against potential invading aircraft, which was eventually deactivated in 1962. Between 1954 and 1963, the property was transferred to State of California piecemeal.

Today Fort McDowell is open to, and used recreationally by, the public under the management of the California State Park Service. Only a small seven-acre portion of the site at the end of Point Blunt is under the jurisdiction of the U.S. Coast Guard supporting a lighthouse station. Access to the island is via ferry and private boats. Single family residential housing exists for full time California State Park Service employees and their families.

According to information on EnviroStor, the site contains underground storage tanks (USTs), aboveground storage tanks (ASTs), potentially contaminated soil, several buildings that pose a safety hazard, and potential ordnance. This property is also known or suspected to contain military and explosives of concern (e.g., unexploded ordnance) and therefore may present an explosive hazard. Based on the history of the island, five separate use areas are described below outlining the previous uses and potential hazardous sources on-site, except for munitions and explosives of concern, which is summarized after.

[1] California Department of Toxic Substances Control, 2023. EnviroStor: FORT MCDOWELL (71000007). Available: https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=71000007. Accessed: January 27, 2023.

North Garrison – Fort McDowell: The North Garrison, originally known as China Cove, is in the northeast corner of the island.[2] The site was used as an immigration detention station for Asian immigrants starting in 1905. In 1941, the island was transferred to the Army, and redesignated as the North Garrison of Fort McDowell. Army uses at this site included troop barracks and prisoner-of-war camp.

According to the 2003 Fort McDowell Site Investigation Report, potential hazardous sources identified at North Garrison during a preliminary assessment include a former ship fuel area with possible beach contamination, four former UST locations, six possible remaining USTs, four ASTs, a rifle range, and pistol range, as well as a potential dump site adjacent to the pistol range.

East Garrison – Fort McDowell: The East Garrison was established in 1907. The garrison was used during the World War I as a recruit depot and during World War II as a debarkation and receiving point for troops sent to the Pacific Theater. The garrison included barracks, a hospital, motor pool area, gymnasium, incinerator, and several buildings. In 1986, the California Office of the State Architect (OSA) conducted a polychlorinated biphenyl (PCB) survey of the island. A PCB removal project began in 1987. During the removal project, a PCB spill occurred in front of the East Garrison Substation, and an unspecified quantity of contaminated soil was removed. The crawlspace of a Warehouse Building at the East Garrison was used by OSA as the PCB storage area during the 1987/1988 removal project. Several shallow metal containment trays were left by the state and some show patterns of liquid spillage. The State developed a dump site located southeast of the East Garrison Engineering Buildings. A historical account of the island mentions that the California Department of Parks and Recreation employees' children used the gymnasium facilities during the early years of state ownership.

According to the 2003 Fort McDowell Site Investigation Report, potential hazardous sources identified at East Garrison during a preliminary assessment include the former motor pool area (hazardous waste drum storage area, vehicle lift rack, oil change rack, incinerator, wash rack, and electrical equipment storage area, and former UST location), two possible remaining USTs, two 30,000-gallon ASTs, a former photo shop, an electrical substation, and former transformer pad.

Ayala Cove – Fort McDowell: Ayala Cove is located south of the Present State Parks boat launch area. The area was used as a quarantine station, which was established in 1892 by the U.S. Marin Health Service (later to become the U.S. Public Health Service). An extensive ship and baggage disinfection operation operated at the cove. The U.S. Army reportedly used the site during ware times and took back ownership in 1952. Many of the buildings in this area were demolished after the area was conveyed to the Park Service in 1954. The four

[2] TN & Associates, Inc. 2003. Final Site Inspection Report: Fort McDowell/Angel Island. Available: https://www.envirostor.dtsc.ca.gov/public/deliverable_documents/2828230142/FinalSIReport_FtMcDowell_USACE.pdf. Accessed: January 27, 2023.

remaining buildings in this area are used by the Park Service as a Visitor's Center and residences for park employees.

According to the 2003 Fort McDowell Site Investigation Report, potential hazardous sources identified at Ayala Cove during a preliminary assessment include four former UST locations, three former AST locations, a former disinfection building, and a possible dumpsite.

West Garrison – Fort McDowell: The West Garrison, also known as Camp Reynolds, was established in 1850 and used by the Army during the Civil War era for the receipt and distribution of new recruits bound for the west. Several barracks buildings and a hospital are located in this area. Several gun batteries, including Battery Wallace, Battery Ledyard, and Battery Drew were established for defense of the bay and area located southeast of the West Garrison.

According to the 2003 Fort McDowell Site Investigation Report, potential hazardous sources identified at West Garrison during a preliminary assessment include a possible dumpsite in the parade grounds, a possible dumpsite near the West Garrison Hospital, a possible dumpsite at Pearl's beach, a possible UST at the lighthouse, and a paint shop.

Point Blunt – Fort McDowell: A gun battery was constructed on Point Blunt in 1864, but reportedly slid into the water in 1869. In 1954, the US Army established a Nike Missile Base at Point Blunt. Approximately, 100 men were stationed at the base and occupied buildings In the East Garrison. The base was in operation until 1962. A seven-acre strip of land on the southeast tip of the island is currently used as a U.S. Coast Guard lighthouse station.

The Nike Missile Facility located near Point Blunt consists of three missile magazines, a generator building, missile refueling area, missile assembly building, and sentry building. An Inventory Project Report prepared in November 1900 for Nike Battery 91 indicated the presence of 25 rusted 55-gallon drums in the refueling area. The 55-drums were moved to the motor pool in East Garrison in 1994. Soil sampling conducted at the refueling area in 1992 and again in 1997. The drums and their contents were removed and disposed of in 1994. No further action was recommended based on the sample results, and DTSC issued a closure letter on November 25, 1998.

A Nike CON/HTRW Project (No. J09CA0943) was conducted to remove the hydraulic fluids, USTs, and associated pipelines between July and December 1995. According to the 2003 Fort McDowell Site Investigation Report, the following removal actions were conducted during the July to December 1995 timeframe:

- Removal and disposal of a 4,000-gallon UST;
- Removal and disposal of a concrete pump vault including the pump;
- Removal and disposal of approximately 25-feet of 2-inch underground pipe;
- Removal and disposal of an AST saddle (no tank);
- Cleaning, cutting, capping, and abandonment in-place of approximately 25-feet of underground pipe on the east end of the generator building;

- Disposal of 250-gallong and 500-gallon tanks stored on site that had been remove by others;
- Removal and disposal of the hydraulic fluid from the hydraulic system in each of the three missile vaults; and
- Flushing the hydraulic systems.

Munitions and Explosives of Concern: In 2009, the Munitions Response Site Prioritization Protocol (MRSPP) Final Site Inspection Report for Fort McDowell was prepared to evaluate the evidence for the presence of munitions and explosives of concern (MEC) and munitions constituents (MC) at the site.[3] The report analyzed the 1,000-inch Rifle Range site near the North Garrison Area, the P-100 Pistol Range near the East Garrison, the Quarry Point Mining Casement Area near the East Garrison, the Point Blunt Ordnance Dump Area in Point Blunt, the Mortar Hill Mining Casement Area in between the West Garrison and Point Blunt areas, and the Complex No. 1 near West Garrison.

The results of the MRSPP Site Inspection Report noted one explosive (nitroglycerin) was detected in Complex No. 1 site. No explosives were detected in any of the other sites; however, lead concentrations within soil found at the Quarry Point Mining Casement Area, 1,000 Inch Rifle Range, and Complex No. 1 exceeded human screening values. Additionally, at all sites, except the Mortar Hill Mining Casement Area, a number of other munitions constituent metals (i.e., mercury, lead, nickel, zinc, copper, etc.) were detected exceeding acceptable ecological screening values (ESVs). Munitions constituents refers to any materials originating from unexploded ordnance, discarded military munitions, or other military munitions, including explosive and nonexplosive materials, and emission, degradation, or breakdown elements of such ordnance or munitions. According to the 2009 MRSPP Site Investigation Report, further munitions constituents metal sampling should be conducted at all sites except the Mortar Hill Mining Casement Area and a Remedial Investigation and Feasibility Study (RI/FS) should be prepared for all sites. To date, additional munitions constituents metal sampling or a RI/FS has been prepared for the Fort McDowell site.

Upcoming Activities: According to EnviroStor, the Fort McDowell/Angel Island site is subject to future activities required by the cleanup oversight agencies (DTSC and Regional Water Quality Control Board 2 – San Francisco Bay). The first is a Site Characterization Report due in 2023 of the Containerized/Hazardous, Toxic and Radioactive Waste area 02, which is the location for a historical fuel spill area. The next is a Site Characterization Report due in 2023 of the Hazardous, Toxic and Radioactive Waste area, which is the historical location of the paint shop in the West Garrison area. Lastly, a Preliminary Assessment/Site Inspection Report (PA/SI) is due in 2025 to analyze the existing USTs and ASTs across the five separate use areas and see if there are any changes in site conditions due to USTs and ASTs.

[3] Parsons, 2009. Final Inspection Report: Fort McDowell/Angel Island. Available: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=71000007&doc_id=5005798. Accessed: January 27, 2023.

Additionally, a Feasibility Studying Report of the USTs and ASTS across the five separate use areas is due in 2026.

Naval Net Depot

The Naval Net Depot site is a Military Evaluation site with a status of No Further Action. According to the site history information in EnviroStor, the Naval Net Depot was originally purchased for use as a Navy Coaling Station in 1904.[4] Since then, the site has had service ships carrying various cargo, such as cod, coal, and lumber.

From 1931 to 1940, the Naval Net Depot site was a nautical training school, harboring and servicing various cargo ships. In 1940, the Navy reclaimed the base for a storage and distribution center. The site was also used to store steel cable during construction of the Golden Gate Bridge, and later to fabricate anti-submarine nets. The site became part of the National Oceanographic and Atmospheric Administration of the Department of Commerce on October 4, 1970.[5] From the late 1950s to 1962 the Naval Reserve Electronics Facility was located at the site. Other sections of the site became surplus property and are now sites for two County parks. The former Floating Dry Dock Training Center Annex is now Paradise Beach County Park and that part of the base west of Paradise Drive became Tiburon Upland Nature Reserve. Another parcel of land was officially transferred from the U.S. to San Francisco State University. All that is left of the Navy's presence on-site is a three-acre area used for instrument testing.

The Naval Depot site has various facilities for servicing vessels, including an oil house, ships service fuel pumps, sewage treatment facilities, and several above-and-below-ground storage tanks. Thirty original buildings remain on site, approximately 20 of which are being used for on-site research. Most on-site buildings have asbestos tile siding, asbestos-wrapped piping, asbestos-wrapped boilers, and asbestos ceiling tiles. Part of the north dock has caved in, and the seawall has collapsed. There are several USTs on site.

A Phase I Environmental Site Assessment (ESA) conducted for the Paradise Beach Park in 2015 indicated that there were no recognized environmental conditions associated with the Paradise Beach Park parcels.[6] The Phase I ESA indicated that on the Naval Net Depot Site, four USTs were removed in 1991 and soils impacted by fuel hydrocarbons (FHCs) were over-excavated, except inaccessible soils that were left in place beneath a concrete slab. Groundwater monitoring wells were installed and monitored over an 18-month period. The

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4 California Department of Toxic Substances Control, 2023. EnviroStor: NAVAL NET DEPOT (80000711). Available: https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=80000711. Accessed: January 27, 2023.

5 Ruhge, J., 2016. Tiburon Naval Depot History. Available: http://www.militarymuseum.org/Tiburon.html. Accessed: January 27, 2023.

6 Edd Clark & Associates, 2015. Paradise Beach Park Phase I Environmental Site Assessment. Available: https://www.parks.marincounty.org/-/media/files/sites/marin-county-parks/projects-and-plans/park-improvements/master-plan-paradise-beach-park/appendix-c-phase-i-report.pdf?la=en. Accessed: January 27, 2023.

San Francisco Bay Regional Water Quality Control Board issued a no further action letter with respect to these USTs dated December 1, 1995.

DTSC issued a letter concurring with the U.S. Army Corps of Engineers Finding of No Department of Defense Actions Indicated for the Tiburon Naval Net site on February 4, 2015.[7]

Cortese List

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies, and developers to comply with the California Environmental Quality Act requirements in providing information about the location of hazardous materials release sites. Government Code Section 65962.5 requires the California Environmental Protection Agency to develop at least annually an updated Cortese List. DTSC is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List. There is one Cortese List site within the Planning Area: Fort McDowell (U.S. EPA ID 71000007).[8] This site is characterized as an active site and is located on Angel Island. Information about this site is provided in the previous EnviroStor discussion.

GeoTracker

GeoTracker is the State Water Resources Control Board's online database that provides access to statewide environmental data and tracks regulatory data for the following types of sites:

- Leaking underground fuel tank (LUFT) cleanup sites;
- Cleanup Program Sites (CPS; also known as Site Cleanups and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites);
- Military sites (consisting of military underground storage tank [UST] sites, military privatized sites, and military cleanup sites [formerly known as DoD non-UST]);
- Land disposal sites (landfills); and
- Permitted UST facilities.

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[7] Department of Toxic Substances Control (DTSC), 2015. Concurrence With Finding of No Department of Defense Actions Indicated (NDAI) for Formally Used Defense Sites in California. Available: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=80000711&doc_id=60385132. Accessed: January 27, 2023.

[8] Department of Toxic Substances Control (DTSC), 2023. Hazardous Waste and Substances List (Cortese). Available: https://www.envirostor.dtsc.ca.gov/public/search?cmd=search&reporttype=CORTESE&site_type=CSITES,FUDS&status=ACT,BKLG,COM&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST+%28CORTESE%29. Accessed: January 27, 2023.

In January of 2023, a search was performed using GeoTracker to identify any known or suspected (reported but not yet confirmed) sources of environmental hazards within the Town. Results of the search are presented below.

Leaking Underground Storage Tanks (LUST)

There are eight locations with a Tiburon address that are listed in the GeoTracker database for Leaking Underground Storage Tanks (LUST). All the locations have undergone LUST cleanup and the State has closed the case. None of the locations in Tiburon have an open case. Table 3.8-2 lists the location of LUSTs in Tiburon.

TABLE 3.8-2: TIBURON LUST CLEANUP SITES

NAME	STATUS	LOCATION
Chevron 9-4493	Completed - Case Closed	1515 Tiburon Highway
Mobil	Completed - Case Closed	1600 Tiburon Boulevard
Texaco	Completed - Case Closed	1660 Tiburon Boulevard
Tiburon Marine Fishery Service	Completed - Case Closed	3150 Paradise Drive
Tiburon Navy Net Depot Bldg 50	Completed - Case Closed	3150 Paradise Drive
Wilson Property	Completed - Case Closed	16 Old Landing Road
Paradise Clay	Completed - Case Closed	127 Trinidad Drive
Tosco – Facility #4886	Completed - Case Closed	25 Tiburon Boulevard

SOURCE: California State Water Resources Control Board (SWRCB), 2023. GeoTracker. Available: https://geotracker.waterboards.ca.gov/search. Accessed: January 27, 2023.

Cleanup Program Sites

There is one location with a Tiburon address that is listed in the GeoTracker database as a Cleanup Program Site. The site, the Newhall Residence (Site T10000009130), located at 2900 Paradise Drive, has a cleanup status of Open – Inactive as of July 13, 2016.[9] A status of Open – Inactive indicates that no regulatory oversight activities are being conducted by the Lead Agency. The potential contaminants of concern are heating oil/fuel oil, and the potential media of concern is the aquifer which is used for drinking water supply.

Military Cleanup Sites

There are four locations with a Tiburon address that are listed in the GeoTracker database as military cleanup sites, all of which are located on Angel Island. All the locations have a status of Open, including three site assessment sites and one inactive site (Nike Battery 91, Angel Island). Three of the locations are Military Privatized Sites, and one is a Military Cleanup Site (Nike Battery 91, Angel Island). Table 3.8-3 lists the location of the military cleanup sites in Tiburon.

[9] California State Water Resources Control Board (SWRCB), 2023. GeoTracker: Newhall Residence (T10000009130). Available: https://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T10000009130. Accessed: January 31, 2023.

TABLE 3.8-3: TIBURON MILITARY CLEANUP SITES

NAME	STATUS	LOCATION
Fort McDowell – Above Ground Storage Tanks 149 and 150	Open – Site Assessment	Eastern portion of Angel Island
Fort McDowell – Central Heating Plant	Open – Site Assessment	Northern portion of Angel Island
Fort McDowell – Fuel Tanks 158 and 159	Open – Site Assessment	Eastern portion of Angel Island
Nike Battery 91, Angel Island (J09CA094300)	Open – Inactive	PO Box 318, Angel Island

SOURCE: State Water Resources Control Board (SWRCB), 2023. GeoTracker. Available: https://geotracker.waterboards.ca.gov/search. Accessed: January 27, 2023.

Solid Waste Information System (SWIS)

The Solid Waste Information System (SWIS) is a database of solid waste facilities that is maintained by the California Department of Resources Recycling and Recovery (CalRecycle). The SWIS data identifies active, planned, and closed sites. The Town has two solid waste facilities listed in the database, both of which are closed. The site details are listed in Table 3.8-4, below.

TABLE 3.8-4: TIBURON SOLID WASTE FACILITIES/SITES

NUMBER	NAME	ACTIVITY	REGULATORY STATUS	OPERATIONAL STATUS
21-CR-0027	Pozzi Disposal Site	Solid Waste Disposal Site	Unpermitted	Closed
21-CR-0003	Angel Island	Solid Waste Disposal Site	TBD (Pending Investigation)	Closed

SOURCE: California Department of Resources Recycling and Recovery (CalRecycle), 2023. SWIS Facility/Site Search. Available: https://www2.calrecycle.ca.gov/SolidWaste/Site/Search. Accessed: January 27, 2023.

Air Traffic Hazards

There are no private or public airport facilities in the Planning Area. The closest airport facility to the Planning Area is the San Rafael Airport.

Local Airport Facilities

San Rafael Airport. The San Rafael Airport is in the City of San Rafael, approximately 7.4 miles north of the Tiburon town limits. The San Rafael Airport is a privately-owned executive airport with a 2,700 feet runway. The airport is located at an elevation of approximately 5 feet above Mean Sea Level (MSL). The Planning Area is not located within the airport influence zone for this airport.

Major Regional Airport Facilities

San Francisco International Airport (SFO): SFO is the largest airport in the region, and a hub for United Airlines. It provides a wide range of domestic airline service and all the region's long-haul international flights. San Francisco serves 68 percent of regional Bay Area air passengers and 43 percent of regional air cargo shipments.

Metropolitan Oakland International Airport (OAK): Oakland Airport has traditionally been the hub for low cost carriers and a major air cargo center due to operations by FedEx and UPS. Oakland serves 17 percent of Bay Area regional air passengers and 52 percent of air cargo.

National Transportation Safety Board Aviation Accident Database

The National Transportation Safety Board Aviation Accident Database identifies one aircraft accident in Tiburon between January 1, 1950 to January 27, 2023.[10] This incident occurred on September 30, 1986. After completing an aerial advertising flight across the San Francisco Bay, the pilot attempted a landing on up-sloping terrain.[11] However, the terrain was steeper than anticipated and the pilot became distracted, resulting in the plane crashing and starting a wildfire. The pilot survived the crash; however, the plane (Cameron 0-77) was destroyed.

Other Potential Hazards

Wildland Fire Hazards

CalFire Fire Threat Areas

The California Department of Forestry and Fire Protection (CalFire) Fire Threat Model identifies fire threats using fuel rank, which is a ranking system developed by CalFire that incorporates four wildfire factors: fuel model, slope, ladder index, and crown index, and modeled characteristics regarding fire probability and behaviors.

The U.S. Forest Service has developed a series of fuel models, which categorize fuels based on burn characteristics. These fuel models help predict fire behavior. In addition to fuel characteristics, slope is an important contributor to fire hazard levels. A surface ranking system has been developed by CalFire, which incorporates the applicable fuel models and slope data. The model categorizes slope into six ranges: 0-10%, 11-25%, 26-40%, 41-55%, 56-75% and >75%. The combined fuel model and slope data are organized into three categories, referred to as surface rank. Thus, surface rank reflects the quantity and burn characteristics of the fuels and the topography in a given area.

The ladder index is the distance from the ground to the lowest leafy vegetation for tree and plant species. The crown index reflects the quantity of leafy vegetation present within individual specimens of a given species.

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[10] National Transportation Safety Board, 2023. Aviation Accident Database & Synopses. Available: https://www.ntsb.gov/Pages/AviationQuery.aspx. Accessed: January 27, 2023.

[11] National Transportation Safety Board, 2023. National Transportation Safety Board Aviation Accident Final Report. Available: https://app.ntsb.gov/pdfgenerator/ReportGeneratorFile.ashx?EventID=20001213X34824&AKey=1&RType=Final&IType=LA. Accessed: January 27, 2023.

The surface rank, ladder index, and crown index for a given area are combined to establish a fuel rank of medium, high, or very high. Fuel rank is used by CalFire to identify areas in the California Fire Plan where large, catastrophic fires are most likely.

The fuel rank data are used by CalFire to delineate fire threat based on a system of ordinal ranking. Thus, the Fire Threat model creates discrete regions, which reflect fire probability and predicted fire behavior. The five classes of fire threat range from low to extreme.

As shown in Figure 3.16-1, Fire Threat, the Town primarily contains areas with "moderate" and "high" fire threats. However, Figure 3.16-1 does identify three small areas with "low" fire threats, including one in the northwest portion of the Planning Area adjacent to Richardson Bay and Trestle Glen Boulevard, another in the southeast portion of the Planning Area east of Paradise Drive, and one along the southern shoreline of Angel Island. The two highest fire threat levels, "very high" and "extreme", are not mapped within or adjacent to the Planning Area. "High" fire threats are located in the northern and eastern portions of the Planning Area, where there tends to be a greater amount of combustible vegetation and where slopes are greater. CalFire data for the areas immediately north and west of the Planning Area include "moderate" and "high" fire threats.

Fire Hazard Severity Zones

The state has charged CalFire with the identification of Fire Hazard Severity Zones (FHSZ) within State Responsibility Areas. In addition, CalFire must recommend Very High Fire Hazard Severity Zones (VHFHSZ) identified within any Local Responsibility Areas (LRA). The FHSZ maps are used by the State Fire Marshall as a basis for the adoption of applicable building code standards. Figure 3.16-2, Fire Hazard Severity Zones, illustrates the Town's Fire Hazard Severity Zones and Responsibility Areas.

As shown in Figure 3.16-2, there are no VHFHSZs located within the Town or Planning Area. While the majority of the Planning Area is not within a FHSZ, portions of the Planning Area are located in "moderate" and "high" FHSZs in State Responsibility Areas (SRA), including areas in the northern, northwestern, northeastern, and eastern portions of the Planning Area. No areas within or adjacent to the Planning Area are categorized as containing a "very high" FHSZs by CalFire.

Wildland-Urban Interface Zones

A Wildland-Urban Interface (WUI) zone is an area where human made structures and infrastructure (e.g., cell towers, schools, water supply facilities, etc.) are in or adjacent to areas prone to wildfire. Approximately 60,000 acres in Marin County fall within the WUI, where residences are intermixed with open space and wildland vegetation.[12] Due to surrounding vegetation and proximity to wildlands, these areas are considered to be at

[12] Marin County, 2018. Marin County Multi-Jurisdiction Local Hazard Mitigation Plan. Available: https://marinflooddistrict.org/documents/marin-county-multi-jurisdiction-local-hazard-mitigation-plan-2018. Accessed: January 30, 2023.

greater risk of wildfires. A Wildland Urban Intermix zone is defined as a housing development interspersed in an area dominated by wildland vegetation subject to wildfire. Lastly, a Wildfire Influence Zone is an area where wildfire susceptible vegetation is within 1.5 miles from a Wildland-Urban Interface or Wildland-Urban Intermix zone.

The majority of Tiburon is located within either a "Wildland-Urban Interface", "Wildland-Urban Intermix", or Wildfire Influence fire hazard zone. Figure 3.16-3, Fire Hazards and Wildland Urban Interface, Intermix, and Wildfire Influence Zones (WUI), identifies the Wildland-Urban Interface, Wildland-Urban Intermix, and Wildfire Influence Zones within Tiburon and the fire hazard severity for each. As shown in Figure 3.16-3, areas throughout Town and Planning Area have significant portions designated with a high fire hazard severity associated with Wildland Urban Interface, Wildland Urban Intermix, and Wildfire Urban Influence zones. Table 3.8-5 identifies the amount acres within the Planning Area located in an either a Wildland Urban Interface, Wildland Urban Intermix, and Wildfire Urban Influence zones.

TABLE 3.8-5: WUI TYPE BY FIRE HAZARD SEVERITY IN TIBURON PLANNING AREA

WUI TYPE	TOWN LIMITS	SOI	PLANNING AREA	GRAND TOTAL
Wildland-Urban Interface Zone				
Not in a Fire Hazards Severity Zone	0.00	0.00	0.00	0.00
Moderate Fire Hazard Severity	427.49	169.79	1.19	598.46
High Fire Hazard Severity	388.90	71.09	4.28	464.27
Wildland Urban Influence Subtotal	*816.39*	*240.88*	*5.47*	*1,062.73*
Wildland-Urban Intermix Zone				
Not in a Fire Hazards Severity Zone	0.00	0.00	0.00	0.00
Moderate Fire Hazard Severity	108.29	72.19	0.96	181.45
High Fire Hazard Severity	126.83	72.50	1.64	200.97
Wildland Urban Intermix Subtotal	*235.12*	*144.69*	*2.60*	*382.42*
Wildfire Urban Influence Zone				
Not in a Fire Hazards Severity Zone	87.92	16.69	1.72	106.34
Moderate Fire Hazard Severity	616.53	64.78	2.31	683.62
High Fire Hazard Severity	415.24	309.19	304.39	1,028.82
Wildfire Urban Influence Subtotal	*1,119.69*	*390.66*	*308.42*	*1,818.78*

WUI TYPE	TOWN LIMITS	SOI	PLANNING AREA	GRAND TOTAL
Not in a WUI Zone				
Not in a Fire Hazards Severity Zone	7,536.49	122.74	30.73	7,689.96
Moderate Fire Hazard Severity	38.45	28.04	0.00	66.49
High Fire Hazard Severity	19.82	19.85	1.74	41.40
Not in a WUI Zone Subtotal	*7,594.76*	*170.63*	*32.47*	*7,797.85*
Total	**9,765.96**	**946.86**	**348.96**	**11,061.78**

SOURCE: CALFIRE FRAP, Wildland Urban Interface, Intermix, and Influence Zones – with Housing Density and Hazard Class, 2021.

Asbestos-Containing Materials (ACM)

Asbestos, a natural fiber used in the manufacturing of different building materials, has been identified as a human carcinogen. Most friable (i.e., easily broken or crushed) asbestos-containing materials (ACM) were banned in building materials by 1978. By 1989, most major manufacturers had voluntarily removed non-friable ACM (i.e., flooring, roofing, and mastics/sealants) from the market. These materials, however, were not banned completely. The Planning Area includes existing development from and prior to the 1960s; therefore, the presence of ACM is likely in some structures.

Lead-Based Paint

Lead-based paint has been identified by the Occupational Safety and Health Administration (OSHA), the Environmental Protection Agency (EPA), and the Department of Housing and Urban Development (HUD) as a potential health risk to humans, particularly children, based on its effects to the central nervous system, kidneys, and bloodstream. The risk of lead-based paint has been classified by HUD based upon the age and condition of the painted surface. The Planning Area includes existing development from and prior to the 1960s; therefore, the presence of lead-based paint is likely in some structures.

Emergency Response

The Tiburon Peninsula Emergency Operations Plan (EOP), adopted in 2022, addresses the planned response to extraordinary emergency situations associated with disasters affecting the City of Belvedere and the Town. The Tiburon Peninsula Emergency Operations Center (EOC), located in the Tiburon Police Department, is equipped to manage disaster response for Tiburon and Belvedere. The Tiburon Peninsula EOC is activated during extraordinary emergencies or events and during disasters. The Tiburon Peninsula EOP guides the Town on how to operate during an emergency. The Tiburon Peninsula EOP utilizes the Standard Emergency Management System criteria for identifying Tiburon Peninsula EOC activation levels. Tiburon also utilizes standard operating procedures established by Police, Fire, and Public Works for conducting routine monitoring of events to determine appropriate actions prior to activating the EOC.

At the local level, the Tiburon Peninsula EOC is used as the central location for gathering and disseminating information, coordinating all jurisdictional emergency operations, and coordinating with the Marin County Office of Emergency Services (OES) and the Marin County Operational Area EOC level during events outside the scope of the Town. When a disaster occurs and two or more of the County's local jurisdictions' EOCs (or at the request of one local jurisdiction) within the Marin County Operational Area (OA) are activated, the Marin County EOC serves as the focal point for information transfer and supports requests by cities and towns. The Marin County EOC is maintained by the Marin OES, which is responsible for planning, outreach, and training as it relates to disaster management and emergency preparedness in Marin County.

If the scope of an emergency is larger than the Marin OA, regional- and State-level EOCs may need to be activated and serve as the focal point of information between counties, cities, and towns. The California Governor's Office of Emergency Services is a California cabinet-level agency that is responsible for emergency preparedness, response, recovery, and homeland security activities within the State.

3.8.2 REGULATORY SETTING

Federal

Aviation Act of 1958

The Federal Aviation Act resulted in the creation of the Federal Aviation Administration (FAA). The FAA is charged with the creation and maintenance of a National Airspace System.

Federal Aviation Regulations (CFR, Title 14)

The Federal Aviation Regulation establish regulations related to aircraft, aeronautics, and inspection and permitting.

Clean Air Act

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: National Ambient Air Quality Standards (NAAQS) for criteria air pollutants, hazardous air pollutant standards, state attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

Clean Water Act

The Clean Water Act (CWA), which amended the Water Pollution Control Act (WPCA) of 1972, sets forth the Section 404 program to regulate the discharge of dredged and fill material into Waters of the United States and the Section 402 National Pollutant Discharge Elimination System (NPDES) to regulate the discharge of pollutants into Waters of the United States. The

Section 401 Water Quality Certification program establishes a framework of water quality protection for activities requiring a variety of Federal permits and approvals (including CWA Section 404, CWA Section 402, Federal Energy Regulatory Commission Hydropower and Section 10 of the Rivers and Harbors Act).

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) introduced active Federal involvement to emergency response, site remediation, and spill prevention, most notably the Superfund program. The Act was intended to be comprehensive in encompassing both the prevention of, and response to, uncontrolled hazardous material releases. CERCLA deals with environmental response, providing mechanisms for reacting to emergencies and to chronic hazardous material releases. In addition to establishing procedures to prevent and remedy problems, it establishes a system for compensating appropriate individuals and assigning appropriate liability. It is designed to plan for and respond to failure in other regulatory programs and to remedy problems resulting from action taken before the era of comprehensive regulatory protection.

Environmental Protection Agency

The primary regulator of hazards and hazardous materials is the EPA, whose mission is to protect human health and the environment. The Town is located within EPA Region 9, which includes Arizona, California, Hawaii, and New Mexico.

Hazardous Materials Transportation Act

The Hazardous Materials Transportation Act, as amended, is the statute regulating hazardous materials transportation in the United States. The purpose of the law is to provide adequate protection against the risks to life and property inherent in transporting hazardous materials in interstate commerce. This law gives the U.S. Department of Transportation and other agencies the authority to issue and enforce rules and regulations governing the safe transportation of hazardous materials.

Natural Gas Pipeline Safety Act

The Natural Gas Pipeline Safety Act authorizes the U.S. Department of Transportation Office of Pipeline Safety to regulate pipeline transportation of natural (flammable, toxic, or corrosive) gas and other gases as well as the transportation and storage of liquefied natural gas. The Office of Pipeline Safety regulates the design, construction, inspection, testing, operation, and maintenance of pipeline facilities. While the federal government is primarily responsible for developing, issuing, and enforcing pipeline safety regulations, the pipeline safety statutes provide for State assumption of the intrastate regulatory, inspection, and enforcement responsibilities under an annual certification. To qualify for certification, a state must adopt the minimum federal regulations and may adopt additional or more stringent regulations as long as they are not incompatible.

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) established EPA's "cradle to grave" control (generation, transportation, treatment, storage and disposal) over hazardous materials and wastes. In California, the DTSC has RCRA authorization.

State

Airport Land Use Commission Law (Public Utilities Code Section 21670 et seq.)

The law, passed in 1967, authorized the creation of Airport Land Use Commissions (ALUCs) in California. Per the Public Utilities Code, the purpose of an ALUC is to protect public health, safety, and welfare by encouraging orderly expansion of airports and the adoption of land use measures that minimizes exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses (Public Utilities Code Section 21670). Furthermore, each ALUC must prepare an Airport Land Use Compatibility Plan (ALUCP). Each ALUCP, which must be based on a twenty-year planning horizon, should focus on broadly defined noise and safety impacts.

Assembly Bill 337

Per AB 337, local fire prevention authorities and CalFire, are required to identify VHFHSZ in LRA. Standards related to brush clearance and the use of fire-resistant materials in FHSZ are also established.

California Code of Regulations

Title 3 of the California Code of Regulations (CCR) pertains to the application of pesticides and related chemicals. Parties applying regulated substances must continuously evaluate application equipment, the weather, the treated lands and all surrounding properties. Title 3 prohibits any application that would:

- Contaminate persons not involved in the application;
- Damage non-target crops or animals or any other public or private property; and
- Contaminate public or private property or create health hazards on said property.

Title 8 of the CCR establishes California Occupational Safety and Health Administration (Cal OSHA) requirements related to public and worker protection. Topics addressed in Title 8 include materials exposure limits, equipment requirements, protective clothing, hazardous materials, and accident prevention. Construction safety and exposure standards for lead and asbestos are set forth in Title 8.

Title 14 of the CCR establishes minimum standards for solid waste handling and disposal.

Title 17 of the CCR establishes regulations relating to the use and disturbance of materials containing naturally occurring asbestos.

Title 19 of the CCR establishes a variety of emergency fire response, fire prevention, and construction and construction materials standards.

Title 22 of the CCR sets forth definitions of hazardous waste and special waste. The section also identifies hazardous waste criteria and establishes regulations pertaining to the storage, transport, and disposal of hazardous waste.

Title 26 of the CCR is a combination of State regulations pertaining to hazardous materials and waste that are presented in other regulatory sections. Title 26 mandates specific management criteria related to hazardous materials identification, packaging, and disposal. In addition, Title 26 establishes requirements for hazardous materials transport, containment, treatment, and disposal. Finally, staff training standards are set forth in Title 26.

Title 27 of the CCR sets forth a variety of regulations relating to the construction, operation, and maintenance of the state's landfills. The title establishes a landfill classification system and categories of waste. Each class of landfill is constructed to contain specific types of waste (household, inert, special, and hazardous).

California Department of Transportation

Caltrans has adopted policy and guidelines relating to traffic noise as outlined in the Traffic Noise Analysis Protocol. The noise abatement criteria specified in the protocol are the same as those specified by the Federal Highway Administration (FHWA).

California Government Code Section 65302

This section, which establishes standards for developing and updating General Plans, includes fire hazard assessment and Safety Element content requirements.

California Health and Safety Code

Division 11 of the Health and Safety Code establishes regulations related to a variety of explosive substances and devices, including high explosives and fireworks. Section 12000 *et seq.* establishes regulations related to explosives and explosive devices, including permitting, handling, storage, and transport (in quantities greater than 1,000 pounds).

Division 12 establishes requirements for buildings used by the public, including essential services buildings, earthquake hazard mitigation technologies, school buildings, and postsecondary buildings. Section 13000 *et seq.* establishes State fire regulations and broadly applicable regulations, such as standards for buildings and fire protection devices, in addition to regulations for specific land uses, such as childcare facilities and high-rise structures.

Division 20 establishes DTSC authority and sets forth hazardous waste and underground storage tank regulations. In addition, the division creates a state superfund framework that mirrors the Federal program.

Division 26 establishes California Air Resources Board (CARB) authority. The division designates CARB as the air pollution control agency per Federal regulations and charges the Board with meeting Clean Air Act requirements.

California Vehicle Code Section 31600 (Transportation of Explosives)

This code establishes requirements related to the transportation of explosives in quantities greater than 1,000 pounds, including licensing and route identification.

California Public Resources Code

The State's Fire Safety Regulations are set forth in Public Resources Code Section 4290, which include the establishment of SRA.

Public Resources Code Section 4291 sets forth defensible space requirements, which are applicable to anyone who "…owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining a mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or land that is covered with flammable material" (Section 4291(a)).

Food and Agriculture Code

Division 6 of the California Food and Agriculture Code establishes pesticide application regulations. The division establishes training standards for pilots conducting aerial applications as well as permitting and certification requirements.

State Oversight of Hazards and Hazardous Materials

The DTSC is primarily responsible for regulating the handling, use, and disposal of toxic materials. The SWRCB regulates discharge of potentially hazardous materials to waterways and aquifers and administers the basin plans for groundwater resources in the various regions of the state. The Regional Water Quality Control Board (RWQCB) oversees surface and groundwater. Programs intended to protect workers from exposure to hazardous materials and from accidental upset are covered under OSHA at the federal and state level (Cal OSHA) and the California Department of Health Services (DHS) at the state level. Air quality is regulated through the CARB and Bay Area Air Quality Management District (BAAQMD). The State Fire Marshal is responsible for the protection of life and property through the development and application of fire prevention engineering, education, and enforcement; CalFire provides fire protection services for State and privately-owned wildlands.

Senate Bill 99

SB 99 requires cities and counties, upon the next revision of the housing element on or after January 1, 2020, to review and update the safety element to include information identifying residential developments in hazard areas that do not have at least two emergency evacuation routes (California Government Code Section 65302(g)(5)).

Water Code

Division 7 of the California Water Code, commonly referred to as the Porter-Cologne Water Quality Control Act, created the SWRCB and the RWQCB. In addition, water quality responsibilities are established for the SWRCB and RWQCBs.

Local

Marin Operational Area Emergency Operations Plan

The Marin Operational Area Emergency Operations Plan (EOP) was adopted in October 2014 and provides the planned response to extraordinary emergency situations associated with large-scale disasters affecting Marin County. The Marin Operational Area (OA) consists of the cities/towns, special districts, and the unincorporated areas within the county. The Marin OA EOP provides the overall concept, organizational framework, and policies for responding to a major emergency or disaster within the County. Agencies and organizations within the Marin OA separately publish documents to support this EOP, which further describe the operation or functional response to specific threats or specific emergency response disciplines. Additionally, each of these supporting plans contain checklists and other resource material designed to provide users with the basic considerations and actions necessary for effective emergency response for the specific hazard or function. The Marin County Office of Emergency Services (Marin OES) is responsible for managing all plans and documents that support and carry out the concepts and policies outlined in the EOP to ensure compatibility between plans and enhanced coordination among jurisdictions.

Marin County Operational Area Emergency Recovery Plan

The Marin County Sheriff's Office of Emergency Services' Marin County Operational Area Emergency Recovery Plan (ERP) was adopted by the Marin County Board of Supervisors in November 2012. While the Marin Operational Area EOP describes the planned response to emergencies, the ERP is designed to accommodate the special challenges inherent in all disasters, especially those severe disasters requiring significant recovery effort and support. This ERP establishes procedures and assigns responsibilities to ensure the effective management of emergency recovery operations within the Marin County Operational Area. It provides an All-Hazards framework for collaboration and coordination during emergencies in the county. Further, it describes operational concepts relating to recovery, identifies components of a recovery organization, and describes general responsibilities of the Marin County Sheriff's Office of Emergency Services and the other entities for the restoration of communities in Marin. The ERP also identifies resources that State and federal agencies may provide.

Marin County Multi-Jurisdiction Local Hazard Mitigation Plan

Hazard mitigation is the use of long-term and short-term policies, programs, projects, and other activities to alleviate the death, injury, and property damage that can result from a disaster. Marin County and its partners developed the 2018 Multi-Jurisdictional Local Hazard

Mitigation Plan (2018 LHMP) to assess risks posed by natural hazards and to develop a mitigation strategy for reducing the County's risks. The County prepared the 2018 LHMP in accordance with the requirements of the Disaster Mitigation Act of 2000 (DMA 2000). Additionally, the plan complies with federal and state hazard mitigation planning requirements to establish eligibility for funding under the FEMA grant programs. The 2018 LHMP replaced the County LHMP that was approved by FEMA on August 29, 2013 and serves as the current Local Hazard Mitigation Plan for all participating jurisdictions.

The Town is a participating jurisdiction of the 2018 LHMP, which includes jurisdiction-specific mitigation actions that are designed to reduce or eliminate losses resulting from natural hazards. The Town approved and adopted the 2018 LHMP on March 6, 2019. The 2018 LHMP identifies risks associated with earthquake, flood, fire, tsunami, landslide, and dam inundation events and assesses the vulnerability of the Town's structures and its transportation, communications, power, and water/sewage systems due to such events. The 2018 LHMP also includes an evaluation of the previous hazard mitigation plans to determine which actions have been completed or should be retained.

Marin County Community Wildfire Protection Plan (CWPP)

The Marin County Community Wildfire Protection Plan (CWPP), updated in 2020, is an advisory document prepared by Fire Safe Marin in collaboration with stakeholder agencies, including the Tiburon Fire Protection District and the Southern Marin Fire Protection District. The CWPP is a countywide strategic plan with action items to reduce fire hazard in the County, especially in areas of concern, which mostly fall within Marin's WUI boundary. The CWPP assists in protecting human life and reducing property loss from wildfire throughout Marin County. The CWPP describes wildfire risk, hazard, and recommendations for improving wildfire preparedness at the County level.

Marin County Hazardous Materials Area Plan

The Marin County Hazardous Materials Area Plan describes the County's pre-incident planning and preparedness for hazardous materials releases. It clarifies the roles and responsibilities of federal, State and local agencies during a hazardous materials incident. It describes the County's hazardous materials incident response program, training, communications and post-incident recovery procedures. The Plan fulfills the Certified Unified Program Agency (CUPA) regulatory program requirements per State law.

Marin County Waste Management Division

The Marin County Department of Public Works Waste Management Division is the local administrative agency (i.e., Certified Unified Program Agency) that coordinates the regulation of hazardous materials and hazardous waste in Marin County, including the Town. The Certified Unified Program Agency (CUPA) is responsible for consolidating, coordinating, and making consistent the administrative requirements, permits, inspections, and enforcement activities of State standards regarding the transportation, use, and disposal of hazardous materials in Marin County. The CUPA implements the hazardous materials business plans

that include an inventory of hazardous materials used, handled, or stored at any business in the County, and is also responsible for regulating hazardous materials handlers, hazardous waste generators, underground storage tank facilities, aboveground storage tanks, and stationary sources handling regulated substances.

Tiburon Peninsula Emergency Operations Plan

The Tiburon Peninsula Emergency Operations Plan (Tiburon Peninsula EOP) addresses the planned response to extraordinary emergency situations associated with disasters affecting the City of Belvedere and the Town. The plan also addresses integration and coordination with other governmental agencies when required and as guided by applying the Whole Community approach (the Whole Community Approach refers to meeting needs, regardless of demographics such as age, economics, or accessibility). This plan is not intended to address the normal day-to-day emergency or well-established emergency procedures. This plan accomplishes the following:

- Establishes the emergency management organization required to mitigate any significant emergency or disaster affecting the Tiburon Peninsula; and
- Establishes the overall operational concepts associated with the Tiburon Peninsula 's Emergency Operations Center (Tiburon Peninsula EOC) activities and the recovery process.

The Tiburon Peninsula EOP establishes policies and procedures and assigns responsibilities to ensure the effective management of emergency operations within the City of Belvedere and the Town. It provides information on the Tiburon Peninsula's emergency management structure and how and when the Tiburon Peninsula EOC staff is activated. The overall objective of emergency management is to ensure the effective management, support and coordination of response forces and resources in preparing for and responding to situations associated with natural disasters, technological incidents, and national security emergencies. To carry out its responsibilities, the emergency management organization will accomplish the following objectives during a disaster/emergency using the Whole Community approach:

- Maintain overall coordination of emergency response and recovery operations. This includes on-scene incident management as required;
- Coordinate and liaise with other appropriate local government agencies, as well as applicable segments of private sector entities and volunteer agencies;
- Establish priorities and resolve conflicting demands for support;
- Prepare and disseminate emergency public information to alert, warn and inform the public; and
- Disseminate damage information and other essential data.

Tiburon Municipal Code

Title IV, Chapter 13, Article II, *Technical Codes*, of the Municipal Code adopts and incorporates various technical construction codes with modifications, including but not limited to, the

California Building Code, and the California Fire Code, as adopted and modified by the current Tiburon Fire Protection District and Southern Marin Fire Protection District ordinances. The Building Code contains general building design and construction requirements relating to fire and life safety, structural safety, and access compliance. The Fire Code sets fire safety related building standards and practices to safeguard life and property.

Title V, Chapter 19, *Encroachments*, requires approval of an encroachment permit for work within, upon or beneath streets, street rights-of-way, public easements or Town-owned land.

Title VI, Chapter 21, *Emergency Organization*, provides for the preparation and carrying out of plans for the protection of persons and property within the Town in the event of an emergency; the direction of the emergency organization; and the coordination of the emergency functions of the Town with all other public agencies, corporations, organizations and affected private persons.

Title VI, Chapter 26, *Solid Waste Storage, Collection and Disposal*, regulates solid waste handling, including hazardous waste, in order to protect public health, safety, and welfare.

3.8.3 THRESHOLDS OF SIGNIFICANCE

According to the CEQA Guidelines Appendix G, the proposed project will have a significant impact related to hazards and hazardous materials 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;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- 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;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; and/or
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

3.8.4 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

Impact 3.8-1 **Development facilitated by the Project has the potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.**

Many types of businesses utilize various chemicals and hazardous materials, and their routine business operations involve chemicals that are manufactured, warehoused, or transported. Implementation of the General Plan 2040 would accommodate the future development of both residential and non-residential uses. Increased development would result in an increase in the routine transport, use, and storage of hazardous materials in the Planning Area, potentially resulting in accidental releases. Risk of upset can involve scenarios that could adversely affect the public or the environment through accidental release of hazardous materials. Exposure of persons to hazardous materials could also occur through the operations of future developments associated with the improper handling of hazardous materials/wastes, particularly by untrained personnel; transportation accident; environmentally unsound disposal methods; or fire, explosion, or other emergencies. Typical incidents that could create a hazard involve accidental releases of hazardous materials including accidents during transport causing a "spill" of a hazardous materials and/or natural disasters causing the unauthorized release of a substance. If not cleaned up immediately and completely, these and other types of incidents could cause contamination of soil, surface water and groundwater, in addition to any toxic vapors that might be generated. Human exposure to contaminated soil or water could have potential health effects depending on a variety of factors, including the nature of the contaminant and the degree of exposure.

The use, transportation, and disposal of hazardous materials in the Planning Area is regulated and monitored by the Tiburon Fire Protection District and Southern Marin Fire Protection District, the Marin County Department of Public Works Waste Management Division, Cal OSHA, and the DTSC consistent with the requirements of federal, State, and local regulations and policies. Facilities that store hazardous materials on-site are required to maintain a Hazardous Materials Business Plan in accordance with State regulations. In the event of an accidental release of hazardous materials, the local CUPA and emergency management agencies (e.g., Police and Fire) would respond. All future projects allowed under the General Plan 2040 would be required to comply with the provisions of federal, State, and local requirements related to hazardous materials. As future development and infrastructure projects are considered by the Town, each project would be evaluated for potential impacts, specific to the project, associated with hazardous materials as required under CEQA.

In addition to the requirements associated with federal, State, and local regulations, the General Plan 2040 includes policies and programs to address potential impacts associated with hazardous materials among other issues. Policy SR-1 ensures that the Town is prepared to effectively respond to any emergency or disaster, including hazardous material releases, in cooperation with other public agencies and appropriate organizations. Program SR-c

supports participation in education and training programs for emergency preparedness and disaster recovery. Policy SR-2 ensures continuation of essential public services during and after emergency events. Program SR-g ensures essential public facilities are accessible and operational during emergency events. Policy SR-3 encourages educational outreach and neighborhood organization to promote awareness and readiness among residents regarding disaster preparedness. Program SR-i promotes public safety emergency notification systems to warn residents of active threats. Policy SR-4 ensures new essential public facilities are located outside of high hazard areas or, when infeasible, requires site design, construction, and other methods to minimize damage. Policy SR-24 actively addresses the need to reduce exposure to hazardous materials. Policy SR-25 encourages residents and businesses to reduce or eliminate the use of hazardous materials. Policy SR-26 reduces the presence of hazardous materials in the community and supports the operation of recycling centers that take hazardous substances. Program SR-qq ensures potential impacts related to hazardous materials are evaluated during the environmental review process for new developments or businesses that involve use, transport, production, storage, and/or disposal of hazardous materials or that are proposed on a site affected by a hazardous materials release. It further requires coordination of hazardous materials management with other public agencies regarding the use, storage, transport, or disposal of hazardous materials, and requires mitigation of potential significant impacts associated with exposure to hazardous emissions or hazardous materials. Program SR-rr directs coordination with other local agencies to implement proper management measures as identified by the County's Hazardous Materials Area Plan.

As described previously, hazardous materials regulations related to the use, handling, and transport of hazardous materials are codified in Titles 8, 22, and 26 of the CCR, and their enabling legislation set forth in the California Health and Safety Code. These laws were established at the State level to ensure compliance with federal regulations to reduce the risk to human health and the environment from the routine use of hazardous substances. These regulations must be implemented by employers/businesses, as appropriate, and are monitored by the State (e.g., Cal OSHA in the workplace or DTSC for hazardous waste) and/or the County. The haulers and users of hazardous materials are listed with and regulated and monitored by the County of Marin. Compliance with the requirements of federal, State, and local laws and regulations regarding the use and storage of hazardous materials would ensure that risks resulting from the routine transportation, use, storage, or disposal of hazardous materials or hazardous wastes associated with implementation of the General Plan 2040 would be **less than significant**.

Mitigation Measures

None required.

Impact 3.8-2 **Development facilitated by the Project has the potential to 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.**

Short-Term Construction-Related Accidental Release of Hazardous Materials

The General Plan 2040 would enable development of new residential and non-residential uses. Construction activities associated with new development could result in upset and/or accident conditions involving the release of hazardous materials into the environment.

Demolition

Specific development projects have not been identified as part of the General Plan 2040. However, future development accommodated through implementation of the General Plan 2040 could involve the demolition of existing structures and buildings as areas within the Town are redeveloped. As discussed above, the Planning Area includes existing development from and prior to the 1960s; therefore, the presence of lead-based paint, ACM, and/or other contaminants, which are typically present in buildings and structures constructed prior to 1978, are likely present in some structures. All demolition that could result in the release of ACMs or lead-based paint would be conducted according to federal and State regulations which govern the renovation and demolition of structures where ACMs and lead-based paint are present. The National Emission Standards for Hazardous Air Pollutants mandates that building owners conduct an asbestos survey to determine the presence of ACMs prior to the commencement of any remedial work, including demolition. In accordance with BAAQMD Regulation 11 Rule 2, if ACM material is found, abatement of asbestos would be required prior to any demolition activities. If paint is separated from building materials (chemically or physically) during demolition of the structures, the paint waste would be required to be evaluated independently from the building material by a qualified Environmental Professional in accordance with California Code of Regulations Title 8, Section 1532.1. If lead-based paint is found, abatement would be required to be completed by a qualified Lead Specialist prior to any demolition activities. Compliance with existing regulations related to ACM and lead-based paint would reduce potential impacts to a less-than-significant level.

Soil and Groundwater Contamination in Unknown Contaminated Sites

Future development accommodated through implementation of the General Plan 2040 could involve grading and excavation activities which could expose construction workers and the public to previously unknown hazardous substances present in the soil or groundwater. The presence of unknown hazardous substances, such as petroleum and heavy metals from industrial activities, may be of particular concern when developing on former industrial land within the Planning Area. Exposure to contaminants could occur if the contaminants migrated to surrounding areas or if contaminated zones were disturbed at the contaminated location. Grading and excavation activities could also reveal previously unidentified underground storage tanks. Although underground storage tank removal activities could

pose risks to workers and the public, potential risks would be minimized by managing the tank according to existing Marin County Department of Public Works Waste Management Division standards. Potential impacts to groundwater would be dependent upon the type of contaminant, the amount released, and depth to groundwater at the time of the release.

The public could also be exposed to hazardous materials if new development or redevelopment were to be located on a current or historical hazardous material site. As described in the Existing Setting section and shown on Table 3.8-1, Fort McDowell/Angel Island is the only active cleanup site within the Planning Area listed in the EnviroStor database. The entire Fort McDowell/Angel Island site is designated Public/Quasi-Public under the General Plan 2040 Land Use Map. As described in the General Plan Land Use Chapter, the Public/Quasi-Public land use is applied to areas suitable for public land uses including educational facilities, governmental and quasi-public buildings and facilities, and utility facilities; residential uses are not permitted. There are no open LUST sites in the Planning Area. One location with a Tiburon address, the Newhall Residence located at 2900 Paradise Drive, is listed in the GeoTracker database as a Cleanup Program Site with a cleanup status of Open – Inactive as of July 13, 2016. There are four locations with a Tiburon address listed in the GeoTracker database as military cleanup sites, all of which are located on Angel Island. Future development associated with implementation of the General Plan 2040 would be reviewed at the project-level to determine whether any development sites are listed on a hazardous materials site. Any development activities that may occur on documented hazardous materials sites would be required to undergo remediation and cleanup under the supervision of the regulatory agencies, such as DTSC and the San Francisco Bay RWQCB.

In addition to the requirements associated with federal, State, and local regulations, the General Plan 2040 includes policies and programs to address potential impacts associated with potentially contaminated sites. Policy SR-1 ensures that the Town is prepared to effectively respond to any emergency or disaster, including hazardous material releases, in cooperation with other public agencies and appropriate organizations. Policy SR-24 actively addresses the need to reduce exposure to hazardous materials. Program SR-qq ensures potential impacts related to hazardous materials are evaluated during the environmental review process for new developments or businesses that involve use, transport, production, storage, and/or disposal of hazardous materials or that are proposed on a site affected by a hazardous materials release. It further requires coordination of hazardous materials management with other public agencies regarding the use, storage, transport, or disposal of hazardous materials, and requires mitigation of potential significant impacts associated with exposure to hazardous emissions or hazardous materials. Program SR-rr directs coordination with other local agencies to implement proper management measures as identified by the County's Hazardous Materials Area Plan. Compliance with General Plan 2040 policies and programs, and existing regulations would reduce potential impacts involving the release of hazardous materials into the environment as a result of on-site contamination to a **less-than-significant** level.

Long-Term Operations-Related Accidental Release of Hazardous Materials

Long-term operation activities associated with new development could result in upset and/or accident conditions involving the release of hazardous materials into the environment. The General Plan 2040 does not propose site-specific development; thus, specific hazardous materials that could be accidentally released cannot be predicted at this time. Typical incidents that could occur due to the accidental release of hazardous materials include leaking underground storage tanks, spills during transport, inappropriate storage or use, and/or natural disasters.

If not cleaned up immediately and completely, these and other types of incidents could cause contamination of soil, surface water, and groundwater, in addition to any toxic fumes that might be generated. Depending on the nature and extent of the contamination, groundwater supplies could become unsuitable for use as a domestic water source. Human exposure to contaminated soil or water could have potential health effects depending on a variety of factors, including the nature of the contaminant and the degree of exposure.

The transport, storage, and handling of hazardous materials by developers, contractors, business owners, and others are required to comply with federal, State, and local regulations during project construction and operation. Facilities that use hazardous materials are required to obtain permits from the EPA under the RCRA, which gives the EPA the authority to control the generation, transportation, treatment, storage, and disposal of hazardous waste. Additionally, the hazardous materials regulations included in federal law govern the transportation of hazardous materials. Locally, the Marin County Department of Public Works Waste Management Division is the CUPA for Marin County and is responsible for consolidating, coordinating, and making consistent the administrative requirements, permits, inspections, and enforcement activities of state standards regarding the transportation, use, and disposal of hazardous materials in Marin County, including the Planning Area.

The General Plan 2040 includes policies and programs to address potential accidental exposure of individuals as a consequence of unknown existing environmental contaminants. Policy SR-1 ensures that the Town is prepared to effectively respond to any emergency or disaster, including hazardous material releases, in cooperation with other public agencies and appropriate organizations. Program SR-c supports participation in education and training programs for emergency preparedness and disaster recovery. Policy SR-2 ensures continuation of essential public services during and after emergency events. Program SR-g ensures essential public facilities are accessible and operational during emergency events. Policy SR-3 encourages educational outreach and neighborhood organization to promote awareness and readiness among residents regarding disaster preparedness. Program SR-i promotes public safety emergency notification systems to warn residents of active threats. Policy SR-4 ensures new essential public facilities are located outside of high hazard areas or, when infeasible, requires site design, construction, and other methods to minimize damage. Policy SR-24 actively addresses the need to reduce exposure to hazardous

materials. Policy SR-25 encourages residents and businesses to reduce or eliminate the use of hazardous materials. Policy SR-26 reduces the presence of hazardous materials in the community and supports the operation of recycling centers that take hazardous substances. Program SR-qq ensures potential impacts related to hazardous materials are evaluated during the environmental review process for new developments or businesses that involve use, transport, production, storage, and/or disposal of hazardous materials or that are proposed on a site affected by a hazardous materials release. It further requires coordination of hazardous materials management with other public agencies regarding the use, storage, transport, or disposal of hazardous materials, and requires mitigation of potential significant impacts associated with exposure to hazardous emissions or hazardous materials. Program SR-rr directs coordination with other local agencies to implement proper management measures as identified by the County's Hazardous Materials Area Plan. Compliance with all applicable federal, State, and local laws related to the transport, storage, and handling of hazardous materials would reduce the likelihood and severity of accidents, and impacts involving the release of hazardous materials into the environment would be **less than significant**.

Mitigation Measures

None required.

Impact 3.8-3 **Development facilitated by the Project has the potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.**

The Planning Area is served by a variety of preschools, elementary, middle, and high schools. As noted above, future development under the General Plan 2040 could utilize, transport, store, or dispose of hazardous materials during construction or operation. Excavation and grading activities associated with future development could expose the public to unknown hazardous materials present in soil or groundwater, which would require remediation activities. Remediation, if any, would include potential transport of hazardous materials to an approved landfill facility. As a result, future development within the Planning Area could potentially emit or handle hazardous materials within one-quarter mile of an existing or proposed school.

CEQA Guidelines Section 15186 requires that school projects, as well as projects proposed to be located near schools, examine potential health impacts resulting from exposure to hazardous materials, wastes, and substances. Furthermore, permitting requirements for individual hazardous material handlers or emitters would require evaluation and notification where potential hazardous materials handling and emissions could occur in proximity to existing schools.

In addition to the requirements associated with federal, State, and local regulations, the General Plan 2040 includes policies and programs to address potential impacts associated with hazardous materials. Policy SR-4 ensures new essential public facilities are located

outside of high hazard areas or, when infeasible, requires site design, construction, and other methods to minimize damage. Policy SR-24 actively addresses the need to reduce exposure to hazardous materials. Policy SR-25 encourages residents and businesses to reduce or eliminate the use of hazardous materials. Policy SR-26 reduces the presence of hazardous materials in the community and supports the operation of recycling centers that take hazardous substances. Program SR-qq ensures potential impacts related to hazardous materials are evaluated during the environmental review process for new developments or businesses that involve use, transport, production, storage, and/or disposal of hazardous materials or that are proposed on a site affected by a hazardous materials release. It further requires coordination of hazardous materials management with other public agencies regarding the use, storage, transport, or disposal of hazardous materials, and requires mitigation of potential significant impacts associated with exposure to hazardous emissions or hazardous materials. Program SR-rr directs coordination with other local agencies to implement proper management measures as identified by the County's Hazardous Materials Area Plan. Implementation of the safety procedures and regulations mandated by applicable federal, State, and local laws and the General Plan 2040 policies and programs would ensure that potential risks resulting from the routine transportation, use, storage, or disposal of hazardous materials or hazardous wastes in proximity to a school associated with implementation of the General Plan 2040 would be **less than significant**.

Mitigation Measures

None required.

Impact 3.8-4 **Development facilitated by the Project has the potential to 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, create a significant hazard to the public or the environment.**

There is one active site location with an active status listed on the Cortese list, compiled pursuant to Government Code Section 65962.5: the Fort McDowell/Angel Island site. As previously described, the entire Fort McDowell/Angel Island site is designated Public/Quasi-Public under the General Plan 2040 Land Use Map. As described in the General Plan Land Use Chapter, the Public/Quasi-Public land use is applied to areas suitable for public land uses including educational facilities, governmental and quasi-public buildings and facilities, and utility facilities; residential uses are not permitted. Future development associated with implementation of the General Plan 2040 would be evaluated at the project-level to determine whether any development sites are listed on a hazardous materials site. Any development activities occurring on documented hazardous materials sites would be required to undergo remediation and cleanup under the supervision of the DTSC and the San Francisco Bay RWQCB prior to construction.

The General Plan 2040 includes policies and programs to address potential impacts associated with hazardous materials. Policy SR-1 ensures that the Town is prepared to

effectively respond to any emergency or disaster, including hazardous material releases, in cooperation with other public agencies and appropriate organizations. Program SR-c supports participation in education and training programs for emergency preparedness and disaster recovery. Policy SR-2 ensures continuation of essential public services during and after emergency events. Program SR-g ensures essential public facilities are accessible and operational during emergency events. Policy SR-3 encourages educational outreach and neighborhood organization to promote awareness and readiness among residents regarding disaster preparedness. Program SR-i promotes public safety emergency notification systems to warn residents of active threats. Policy SR-4 ensures new essential public facilities are located outside of high hazard areas or, when infeasible, requires site design, construction, and other methods to minimize damage. Policy SR-24 actively addresses the need to reduce exposure to hazardous materials. Policy SR-25 encourages residents and businesses to reduce or eliminate the use of hazardous materials. Policy SR-26 reduces the presence of hazardous materials in the community and supports the operation of recycling centers that take hazardous substances. Program SR-qq ensures potential impacts related to hazardous materials are evaluated during the environmental review process for new developments or businesses that involve use, transport, production, storage, and/or disposal of hazardous materials or that are proposed on a site affected by a hazardous materials release. It further requires coordination of hazardous materials management with other public agencies regarding the use, storage, transport, or disposal of hazardous materials, and requires mitigation of potential significant impacts associated with exposure to hazardous emissions or hazardous materials. Program SR-rr directs coordination with other local agencies to implement proper management measures as identified by the County's Hazardous Materials Area Plan. Compliance with General Plan 2040 goals, policies, and actions, and existing regulations would reduce potential impacts involving the hazardous materials sites, and the impact would be **less than significant**.

Mitigation Measures

None required.

Impact 3.8-5 **Development facilitated by the Project would not be 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, and would not result in a safety hazard or excessive noise for people residing or working in the project area.**

There are no airports within the Planning Area. The closest airport to the Planning Area is the San Rafael Airport in the City of San Rafael, approximately 7.4 miles north of the Tiburon town limits. The Planning Area is not located within the airport influence zone for this airport. Because the Planning Area is not within an airport land use plan or within two miles of a public use airport, impacts with regard to safety hazards to people residing or working in the Planning Area would be **less than significant**.

Mitigation Measures

None required.

Impact 3.8-6 **Development facilitated by the Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.**

The General Plan 2040 would allow a variety of new development which would result in increased jobs and population in the Planning Area. Existing roads and infrastructure are generally established throughout the community and large-scale improvements to roads and infrastructure would not be required to accommodate the new growth. Implementation of the General Plan 2040 would not impair or physically interfere with an adopted emergency response plan or emergency evacuation plan. As described in Section 3.13, Public Services and Recreation, fire protection and emergency response services in Tiburon are provided by the Tiburon Fire Protection District (TFPD) and the Southern Marin Fire Protection District (SMFPD).

The Marin OA EOP provides the overall concept, organizational framework, and policies for responding to a major emergency or disaster within the County. Agencies and organizations within the Marin OA separately publish documents to support this EOP, which further describe the operation or functional response to specific threats or specific emergency response disciplines. The Tiburon Peninsula EOP establishes policies and procedures and assigns responsibilities to ensure the effective management of emergency operations within the City of Belvedere and the Town. The Tiburon Peninsula EOP does not provide a specific evacuation route map, as evacuation measures would be implemented based on the specific emergency and area affected. The General Plan 2040 would not require or result in revisions to the adopted Marin OA EOP or Tiburon Peninsula EOP.

As noted in the General Plan 2040, Tiburon's location on a peninsula and topography of steep hillsides poses challenging constraints for emergency response and evacuation. One of the major problems Tiburon faces during any emergency is the possibility of becoming isolated from surrounding cities or counties and any subsequent resources or help. The Tiburon Peninsula has one major road (Tiburon Boulevard) and one minor road (Paradise Drive) which provide primary access to the entire Planning Area. Additionally, there is a second minor road (Trestle Glen Boulevard) connecting Tiburon Boulevard and Paradise Drive in the northern portion of the Planning Area; however, the remaining transportation network consists of narrow local streets within the hillsides. Therefore, the susceptibility to road blockages is high and delays during evacuations will be inevitable. During an emergency, some areas could be inaccessible to emergency service personnel and vehicles due to the limited access to the area.

In the event of an area-wide emergency, evacuation of the Planning Area would be difficult. Evacuation traffic on Tiburon Boulevard (Highway 131) would cause severe congestion since that is the only major access route for most of the Planning Area. As residents use the

Highway 101 Tiburon Boulevard/East Blithedale Avenue interchange to evacuate out of Marin County, key choke points would occur causing massive delays for Tiburon residents, especially those located in residential areas in the southern portion of the peninsula. During an evacuation of the Tiburon Peninsula area, it is anticipated that over 17,000 residents from Tiburon, Belvedere, and Strawberry would potentially utilize this interchange as the main evacuation route since it is the closest interchange to all three communities.

The fire departments serving Tiburon, the TFPD and the SMFPD, use a cloud-based platform called Zonehaven that provides public safety workers with tools to pre-plan evacuation zones and routes, run scenario models, and collaborate with other agencies. The platform communicates live updates to fire department personnel and the public about evacuation routes, traffic flow, and roadway conditions during an emergency. Using satellite images and other information, the platform delivers real-time evacuation instructions to residents through mobile alerts and social media that can be adapted to the type of emergency, such as wildfire, earthquake, and tsunami. As conditions change, evacuation routes can be quickly modified. For example, roadways may be closed or turned into one-way evacuation routes as needed.

The Town approved an Evacuation Decal program in August 2018 to demarcate potential evacuation routes to assist residents, businesses, and visitors in evacuating in the event of a disaster. The Evacuation Decal program was developed by the TFPD with input from the Belvedere Tiburon Joint Disaster Advisory Council.

The General Plan 2040 includes policies and programs to address emergency evacuation routes. Specifically, Program SR-d directs the Town to work with the TFPD, the SMFPD, the Marin Wildfire Prevention Authority, and the Tiburon Police Department to identify and map residential developments in hazard areas that do not have at least two emergency evacuation routes and identify mitigation measures as feasible; Program SR-e directs the Town to work with the TFPD, the SMFPD, the Marin Wildfire Prevention Authority, and the Tiburon Police Department to evaluate evacuation routes for their capacity, safety, and viability under a range of emergency scenarios; and Program SR-f directs the Town to improve local evacuation capacity by identifying evacuation routes through signage, promoting public safety route identification applications, and assessing the feasibility of adding additional evacuation routes.

The General Plan 2040 does not include any site-specific development. However, future development would be designed, constructed, and maintained in accordance with applicable standards, including vehicular access to ensure that adequate emergency access and evacuation would be maintained. Construction activities that may temporarily restrict vehicular traffic would be required to implement appropriate measures to facilitate the passage of persons and vehicles through/around any required temporary road closures. As described above, evacuation routes would depend upon the emergency event and area affected. The General Plan 2040 includes policies and programs to address emergency response and evacuation. Policy SR-1 ensures that the Town is prepared to effectively

respond to any emergency or disaster, including hazardous material releases, in cooperation with other public agencies and appropriate organizations. Program SR-a ensures implementation of the adopted LHMP. Program SR-b directs the Town to continue to review, update, and provide continued training to ensure that the Tiburon Peninsula EOP remains effective in preparing for disasters. Program SR-c supports participation in education and training programs for emergency preparedness and disaster recovery. Program SR-d directs the Town to work with the TFPD, the SMFPD, the Marin Wildfire Prevention Authority, and the Tiburon Police Department to identify and map residential developments in hazard areas that do not have at least two emergency evacuation routes and identify mitigation measures as feasible. Program SR-e directs the Town to work with the TFPD, the SMFPD, the Marin Wildfire Prevention Authority, and the Tiburon Police Department to evaluate evacuation routes for their capacity, safety, and viability under a range of emergency scenarios. Program SR-f directs the Town to improve local evacuation capacity by identifying evacuation routes through signage, promoting public safety route identification applications, and assessing the feasibility of adding additional evacuation routes. Policy SR-2 continues essential public services during and after natural disasters and other catastrophes. Program SR-g ensures essential public facilities are accessible and operational during flooding, seismic events, fires, extreme heat events, and other emergencies. Policy SR-3 encourages educational outreach and neighborhood organization to promote awareness and readiness among residents regarding disaster preparedness. Program SR-i promotes public safety emergency notification systems to warn residents of active threats such as flood or wildfire.

Primary access to all major roads would be maintained during construction of future developments within the Planning Area. Per Municipal Code Title V, Chapter 19, *Encroachments*, construction activities would require approval of an encroachment permit for work within, upon or beneath streets, street rights-of-way, public easements or Town-owned land. Additionally, as part of the site plan and architectural review process, future development projects would be reviewed for adequate infrastructure and access as well as consistency with adopted emergency and evacuation plans among many other environmental issues in order to ensure the safety of Town residents and the physical environment. Therefore, impacts associated with adopted emergency response or evacuation plans would be **less than significant**.

Mitigation Measures

None required.

Impact 3.8-7 **Development facilitated by the Project has the potential to expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.**

The potential for wildland fires represents a hazard to people and structures, particularly within WUI areas. As described in Section 3.16, Wildfire, and shown in Figure 3.16-1, in that section of this EIR, the majority of the Planning Area is not within a FHSZ, however, portions

of the Planning Area are located in "moderate" and "high" FHSZs in SRA, including areas in the northern, northwestern, northeastern, and eastern portions of the Planning Area. According to CalFire's Fire Threat Model, "High" fire threats are located in the northern and eastern portions of the Planning Area, where there tends to be a greater amount of combustible vegetation and where slopes are greater, and areas immediately north and west of the Planning Area include "moderate" and "high" fire threats. The majority of Tiburon is located within either a "Wildland-Urban Interface", "Wildland-Urban Intermix," or Wildfire Influence fire hazard zone. In addition to the direct physical threat to life and property, smoke released during an event can have a detrimental effect on air quality and lead to health risks from smoke inhalation.

Protection from wildland fires is realized through creation of defensible areas around structures, the use of fire-resistant building materials, and coordinated emergency response. All new construction is required to adhere to standards and requirements set forth in the Municipal Code, which incorporates the California Fire Code, as adopted and modified by the current TFPD and SMFPD ordinances. As part of the site plan and architectural review process, future development projects would be reviewed for consistency with the Fire Code. Further, the General Plan 2040 Safety and Resilience Chapter includes goals and policies to reduce the risk of wildland hazards. Policy SR-1 ensures that the Town is prepared to effectively respond to any emergency or disaster, including hazardous material releases, in cooperation with other public agencies and appropriate organizations. Program SR-c supports participation in education and training programs for emergency preparedness and disaster recovery. Policy SR-2 ensures continuation of essential public services during and after emergency events. Program SR-g ensures essential public facilities are accessible and operational during emergency events. Policy SR-3 encourages educational outreach and neighborhood organization to promote awareness and readiness among residents regarding disaster preparedness. Program SR-i promotes public safety emergency notification systems to warn residents of active threats. Policy SR-4 ensures new essential public facilities are located outside of high hazard areas or, when infeasible, requires site design, construction, and other methods to minimize damage. Policy SR-17 reduces the risk of loss of life, personal injury, and property damage resulting from wildfire through code enforcement and coordination the local Fire Districts and other agencies to ensure the safe delivery of emergency services and the effective evacuation of the community in the event of a disaster. Policy SR-18 requires new development to provide sufficient water supply and equipment for fire suppression to ensure that the requirements for minimum fire flow and the size, type, and location of water mains and hydrants set forth in the California Fire Code and by local ordinance are met. Policy SR-19 require new development within areas of insufficient peak load water supply to contribute to improvements to the water delivery system to meet requirements for minimum fire-flow. Policy SR-20 directs the Town to work with the Fire Districts and other agencies to provide, enhance, and maintain adequate access, including secondary access, to all areas within the Planning Area. Program SR-ll considers adoption of an ordinance requiring the maintenance of defensible space on

properties where fire hazard is significant. On-going maintenance of defensible space buffers and fire protection infrastructure (e.g., safe access for emergency response vehicles, visible street signs, fuel breaks, and emergency water sources and supplies, etc.) in new development projects shall be assured in a form satisfactory to the Town and the Fire Districts prior to construction of improvements. Program SR-mm reviews all development proposals for fire risk and require mitigation measures, including on-going maintenance of defensible space and infrastructure related to fire protection and fire hardening of structures and areas proximate to structures, for development located in state responsibility areas, high fire hazard severity zones, or other areas with significant wildfire potential, to reduce the probability of fire-related hazards to a less than significant level. All new development is required to meet the adopted State and local fire codes. All applications are referred to the appropriate Fire Districts for review. Program SR-nn implements the adopted Open Space Management Program to reduce fuel loads and maintain fire roads and evacuation routes.

Future development allowed under the General Plan 2040 would be required to comply with the provisions of federal, State, and local requirements related to wildland fire hazards, including State fire safety regulations associated with wildland-urban interfaces, fire-safe building standards, and defensible space requirements. As future development and infrastructure projects are considered by the Town, each project would be evaluated for project-specific potential impacts associated with wildland fire hazards as required under CEQA. Therefore, through compliance with existing federal, State, and local laws and regulations related to wildland fire hazards and implementation of the General Plan 2040 policies and programs, impacts regarding the exposure of people or structures to significant loss, injury, or death involving wildland fires would be **less than significant**.

Mitigation Measures

None required.

Impact 3.8-8 **Development facilitated by the Project, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to hazards and hazardous materials.**

Construction of individual development projects allowed under the land use designations of the General Plan 2040 may involve the transportation, use, and/or disposal of hazardous materials, which may involve the use of equipment that contains hazardous materials (e.g., solvents and fuels or diesel-fueled equipment), or the transportation of excavated soil and/or groundwater containing contaminants from areas that are identified as being contaminated. Furthermore, because of the regional nature of the General Plan 2040, some future land uses could transport or use hazardous materials within one-quarter mile of a school, or other sensitive receptors such as hospitals and residences.

As with specific projects resulting from implementation of the General Plan 2040, cumulative development would be required to evaluate individual hazards and hazardous materials

impacts at the project-level. While some cumulative impacts would potentially occur in the region as individual projects are constructed, the General Plan 2040 policies and programs, as well as local, State, and federal regulations would reduce the risk to people associated with hazards and hazardous materials in the region. Considering the protection granted by local, State, and federal agencies and their requirements for the use of hazardous materials and other potential hazards in the region, as described above, the overall cumulative impact for hazards impacts would not be significant. As a result, the General Plan 2040's incremental contribution to cumulative hazards and hazardous materials impacts would be less than cumulatively considerable, and the cumulative impact would be **less than significant**.

Mitigation Measures

None required.